INDEX TO VOLUME XLIX

[NOTE.—In this index the title to principal papers and headings of departments, as *Discussions,* are in italics.]

Abramski, C., *et al.*, on coal, 844
Abstracts—
Alteration associated with ore at Gaspe copper mines (Bell and Scott), 516
Anthophyllite-vermiculite deposit of Hafafit, Eastern Desert, Egypt (Amin and Afia), 317
Blister hypothesis and economic geology (Wolfe), 810
Certain structural features of porphyry copper deposits in the western and southwestern United States (Pennebaker), 122
Certain terms of mining geology as defined and used (Schmitt), 198
Composition of vein-forming fluids from inclusion data (Smith), 205
Copper Cities copper deposit, Globe-Miami district, Arizona (Peterson), 362
Development of monazite exploration techniques (Griffith), 119
Direction of flow of late stage solutions in the Lamaque No. 6 vein (Smith), 530
Edith River uranium deposit (Fisher), 118
Elizabeth copper mine, Vermont (McKinstry and Mikkola), 1
Emerald, Feeney, and Dodger tungsten ore-bodies, Salmo, British Columbia, Canada (Ball), 625
Estimation of reserves for uranium-vanadium deposits on the Colorado Plateau (Bush and Stager), 805
Expense of exploration (Callaway), 328
Explosion pipe in test well on Hicks Dome, Hardin County, Illinois (Brown, Emery, and Meyer), 891
Extraction of uranium from aqueous solution by coal and some other materials (Moore), 652
Formation of intermediate sulfide phases in the solid state (Ross), 734
Friends Station—New Market zinc-bearing area in east Tennessee (Oder), 121
General structural relations of the upper Mississippi Valley zinc-lead district (Heyl), 120
Genesis of the Witwatersrand gold-uranium deposits (Miholić), 537
Geochemical prospecting at Cobalt, Ontario (Koehler, Hostetler, and Holland), 378
Abstracts—Continued
Geologic structure around the Santa Rita, New Mexico, intrusive (Ordonez and Baltosser), 122
Geology and mineralogy of salt and cap rock of U. S. Gulf Coast salt domes (Taylor), 805
Geology and ore deposits of Baja California, Mexico (Wisser), 44
Geology of the Cold Spring tungsten mine, Nederland, Colorado (Ridland), 123
Geology of the Radium Hill uranium mine, South Australia (Parkin and Glasson), 815
Gold pan: A neglected geological tool (Mertie), 639
Human relationships in future mineral procurement (Davidson), 345
Hydrothermal alteration and other characteristics of five explored hot-spring systems (White), 806
Hydrothermal alteration at the Climax molybdenite deposit, Colorado (Vanderwilt and King), 125
Ilmenite deposit of Abu Ghalqa, Egypt (Amin), 77
Investigation of rank in coal by differential thermal analysis (Glass), 294
Investigations of uranium-bearing deposits of the Boulder batholith, Montana (Thurlow and Jarrard), 125
Jersey lead-zinc deposit, Salmo, B. C. (Whishaw), 521
Land-surface subsidence and its relation to the withdrawal of ground water in the Houston-Galveston region, Texas (Winslow and Doyel), 413
Lateritic nickel-cobalt deposit at Moa, Oriente, Cuba (Colligan), 117
Localization of uranium minerals in channel sediments at the base of the Shinarump conglomerate, Monument Valley, Arizona (Witkind), 804
Manganese deposits of the Mogollon Rim, Coconino County, Arizona (Silver), 88
Manganese dioxide for dry cells (Levin, Nye, and Kedesdy), 807
Marginal luminescence of certain intrusive rocks and hydrothermal ore deposits (McDougall), 717
Metallic melting point and ore deposition (Sullivan), 555

Abstracts—Continued
Method for the petrographic analysis of commercially delivered lignite (Traverse), 92
Mineralogy of a uraninite deposit at Caribou, Colorado (Wright), 129
Native copper deposits (Cornwall and White), 808
Notes on the dunite and the geochemistry of vermiculite at the Day Book dunite deposit, Yancey County, North Carolina (Kulp and Brobst), 211
Occurrence and origin of the graphite deposits near Dillon, Montana (Ford), 31
Occurrence of cobalt and nickel in the Silver Summit mine, Coeur d'Alene district, Idaho (Fryklund and Hutchinson), 753
Occurrence of mineral deposits in the pegmatites of the Karibib-Omaruru and Orange River areas of South West Africa (Cameron), 117
Ore controls at the Guadalupe mine, Nuevo Leon, Mexico (Whiting), 493
Ore deposits of Jugoslavia and the development of its mining industry (Schumacher), 451
Origin of salt-dome sulfur deposits (Feely and Kulp), 806
Origin of the Roan Antelope copper deposit of Northern Rhodesia (Davis), 575
Origin of the silica of the bedrock hypogene ore deposits (Schmitt), 877
Origin of vermiculite deposits, Southern Virgin Mountains, Nevada (abstract), 809
Paragenesis of the ores of the Palomas (Hermosa) district, southwestern New Mexico (Jicha), 759
Paragenesis of the zinc-lead-copper deposits at the Mindamar mine, Nova Scotia (Watson), 389
Paragenetic relationships of germanite and reniérite from Tsumeb, South West Africa (Sclar and Geier), 808
Pegmatitic lithium deposits in Canada (Rowe), 501
Petrographic examination of washed, screened and crushed samples of coal from the Sydney and St. Rose coalfields, Nova Scotia (Hacquebard and Lahiri), 837
Preliminary report on replacement and rock alteration in the Soudan iron ore deposit, Minnesota (Schwartz and Reid), 124
Productive ore deposits of the Metaline district (Mills), 121
Progress report on the origin of uranium deposits (Everhart), 118

Abstracts—Continued
Pyritic mineralization in the Goudreau area of Algoma, Ontario (Douglas), 310
Radioactive, pronouncedly differentiated pegmatite sill, Lac La Ronge district, northern Saskatchewan (Mawdsley), 616
Salt-water encroachment as induced by sea-level excavation of Angaur Island (Wentworth, Mason, and Davis), 810
Sedimentary facies of iron-formation (James), 235
Significance of carbonate mineralogy in relation to the uses of carbonate rocks (Graf and Lamar), 809
Structural and stratigraphic control of ore deposition in the Shasta copper-zinc district, California (Kinkel), 120
Structural control of Globe-Miami district, Arizona (Peterson), 122
Structure and mineralization, Silver Bell, Arizona (Richard and Courtright), 123
Studies of factors influencing uranium accumulation in plants (Anderson and Kurtz), 802
Suggested source of the thiophile elements of the Tertiary ore deposits of the southwest (Hillebrand), 863
Systems HgS—Na_2S—H_2O and HgS—Na_2S—Na_2O—H_2O (Dickson and Tunell), 807
Transportation and deposition of quicksilver ores in the Terlingua district, Texas (Thompson), 175
Uranium contents of Wisconsin Rivers and their use in geochemical prospecting (Adams), 803
Uranium deposits, Big Indian Wash-Lisbon Valley area, San Juan County, Utah (Isachsen), 804
Uranium deposits of the Boulder batholith, Montana (Becraft and Pinckney), 803
Uranium exploration, Rum Jungle province, Australia (Sullivan and Fisher), 119
Uranium exploration by the Bureau of Mineral Resources, Geology and Geophysics, in the Rum Jungle province, Northern Territory, Australia (Fisher and Sullivan), 826
Use of the gamma ray scintillation spectrometer in the separate measurement of the uranium and thorium series in geological materials (Hurley), 802
Vertical zoning at the O'Brien gold mine, Kewagama, Quebec (Mills), 423
White Pine copper deposit, Ontonagon County, Michigan (White and Wright), 675

Abstracts—Continued
Widespread occurrence and character of uraninite in the Triassic and Jurassic sediments of the Colorado Plateau (Rosenzweig, Gruner, and Gardiner), 351
Abu Ghalqa, Egypt, The ilmenite deposit of (Amin), 77
Acanthite, 750
Activators, 718
Adams, J. A. S., abstract by, 803
Addresses, human relationships in future mineral procurement (Davidson), 345
Aerial photos, pegmatites in granite, Yellowknife-Beaulieu district, N.W.T., 505
Aerial photos of study areas (communication), 779
Afia, M. S., with Amin, M. S., *Anthophyllite-vermiculite deposit of Hafafit, Eastern Desert, Egypt*, 317
Aggregates, lightweight aphanites (communication), 435
Ajvalija lead-zinc deposit, Yugoslavia, 472
Albite, 404, 508
Albitization, carbonate formation, 245
Aldrich, H. R., on iron, 276
Algoma, Ontario, Pyritic mineralization in the Goudreau area of (Douglas), 310
Allen, E. T., and Day, A. L., on hot springs, 181
on silica, 882
Allen, R. C., on Nonesuch shale, Mich., 689
Alling, H. L., on oolitic iron ores, 256
Almond, H., on cobalt, 756
on tests for cobalt, 383
Alteration, 200, 202
Climax molybdenite deposit, Colo. (abstract), 125
Copper Cities copper deposit, Ariz., 370
Day Book dunite, N. C., 213
Elizabeth mining district, Vt., 22, 28
granite, Salmo tungsten district, B.C., 631
greenstone, Minnesota, Soudan iron deposit (abstract), 124
hot-spring systems (abstract), 806
iron ore wall rock, Mich. (discussion), 440
Majdan Pek copper deposit, Yugoslavia, 476
Palomas district, New Mexico, 763
Pascalis Township, Que., 721
rocks, southwestern U. S., 878
Salmo district, B.C., 524
Silver Belt, Idaho, 754
solutions, ore fluid, and magmas, 871
spodumene, 504, 507
uraninite, Colo. Plateau, 360
uraninite deposit, Caribou, Colo., 130, 134, 146
vermiculitization, Nevada (abstract), 809
Alteration associated with ore at Gaspe copper mines (Bell and Scott), 516
Alty, S. W., on tourmaline, 604
Alunite, 401
Amblygonite, 501, 504
Arizona, pegmatite belt (review), 335
Amin, M. S., *Ilmenite deposit of Abu Ghalqa, Egypt*, 77–87
Amin, M. S., and Afia, M. S., *Anthophyllite-vermiculite deposit of Hafafit, Eastern Desert, Egypt*, 317–327
Amphibolite, 11
Analysis, Investigation of rank in coal by differential thermal (Glass), 294
Anderson, C. A., on conglomerates, 50
Anderson, C. S., on copper, 2
Anderson, R. J., on Silver Belt, Idaho, 754
Anderson, R. Y., and Kurtz, E. B., abstract by, 802
Andesite, 436
Anglesite, 772
Angaur Island, salt-water encroachment (abstract), 810
Ankerite, 316, 604
Ankeritization, 879
Anomalies, geochemical, Cobalt, Ont., 384
Anthophyllite, 217
Anthophyllite-vermiculite deposit of Hafafit, Eastern Desert, Egypt (Amin and Afia), 317
Anthracite, meta-anthracite, 296
uranium extraction, 654
Anthraxylon, 93, 99
Antimony, deposition, 560
Yugoslavia, 454, 478
Antiquity, Roman mining in Yugoslavia, 453
Apatite, 604, 898, 901
Aphrosiderite, 265
Apuli, W. E., analysis by, 263
Aquifers, overburden support and pressure relief, 418
withdrawal and compaction, Texas (discussion), 790
Archean, uranium concentration by organisms, 538
Argentite, 161, 170, 762, 769, 771, 774
Arizona, Copper Cities copper deposit, Globe-Miami district (Peterson), 362
Manganese deposits of the Mogollon Rim, Coconino County (Silver), 88
copper, Silver Bell, structure and mineralization (abstract), 123
ore deposits, thiophile elements, 867
pegmatites, White Picacho district (review), 335
Ray copper deposit, genesis, 572
rocks, alteration, 878
structure, Globe-Miami district (abstract), 122
uraninite deposits, 352
uranium, Monument Valley (abstract), 804

Arkansas, anthracite, thermal curves, 297, 299
Armstrong, F. C., and Full, R. P., on Crystal graphite mine, Mont., 34
Arsenic, Alšar deposit, Yugoslavia, 478
Arsenic and native copper (communication), 908
Arsenopyrite, 71
Asbestos, Yugoslavia, 489
Asphaltite, 358
Atmosphere, composition during geologic time, 244
Attia, M. I., on hematite, 77
Auger, P. E., on ores, 723
on sulphides, 423
Australia, Uranium exploration by the Bureau of Mineral Resources, Geology and Geophysics, in the Rum Jungle province, Northern Territory (Fisher and Sullivan), 826
Central Australia, copper-nickel, Macdonnell Range, 570
copper, Cobar deposit, 561
New South Wales, Broken Hill area (discussion), 783
uranium, Edith River deposits (abstract), 118
origin, Rum Jungle district, 563
Radium Hill mine, 815
Rum Jungle province (abstract), 119
Western Australia, copper-nickel region (discussion), 904
iron formations, 257
Austria, anthracite, Leoben, thermal curve, 297
Autunite, 832
Avala lead-zinc deposit, Yugoslavia, 469
Axelrod, J. M., identification by, 756
Ayer, F. A., on White Pine mine, Mich., 677
Ayres, V. L., on stilpnomelane, 270

Bacteria, iron, nitrogen, and sulfur fixation (review), 104
mineral deposit formation, 538
petroleum microbiology (review), 912
sulphide precipitation, 611
sulphur production from dissolved sulphate (abstract), 806
Bain, G. W., radiometric test by, 899
Baja California, Mexico, Geology and ore deposits of (Wisser), 44
Balkan Peninsula, mineral deposits, 455, 457
Ball, C. W., *The Emerald, Feeney, and Dodger tungsten ore-bodies, Salmo, British Columbia, Canada*, 625–638
Ball, J., on Hafafit Range, Egypt, 317
Baltosser, W. W., with Ordonez, G., abstract by, 122
Banding, sulphide ore, Mindamar mine, Nova Scotia, 408
uraninite ores, Colo., 162
Barbosa, O., on an unconformity, 659
Barghoorn, E. S., and Spackman, W., on lignite, 93
Barite, 401, 496, 766, 901
Barnes, R. S., on copper, 564
Barshad, I., on vermiculite, 218
Barthoux, J., on granite, 77
Basalt, 436
Bassett, A. B., on clays, 181
Bastin, E. S., on argentite, 771
on colloform texture, 162
on graphite, 34
Bastin, E. S., and Hill, J. M., on quartz monzonite, 131
Bastin, E. S., and Laney, F. B., on lead-silver sulphide, 768
Batêa, 644, 646
Bateman, A. M., on ores, 85, 591
on sulphides, 749
on terms, 198
review of book by, 338, 547
Bateman, A. M., and Lasky, S. G., on covellite, 735
Batholith, 199, 203
Baja Calif. batholith, Mexico, 47, 56
Boulder batholith, uranium deposits, Mont. (abstract), 803
Batteries, manganese dioxide for dry cells (abstract), 807
Bauxites, Northern Ireland, Antrim (review), 108
Yugoslavia, 454, 486
Bay, H. X., and Du Bois, E. P., on Fricker well, Ill., 893
Bayley, W. S., on slate, 248
Beal, C., on Baja Calif., Mexico, 46
Becker, G. F., on saprolite, 641
Becquerelite, 804
Becraft, G. E., and Pinckney, D. M., abstract by, 803
Beers, R. F., and Goodman, C., on uranium, 538
Beerstecher, E., Jr., review of book by, 912
Belgian Congo, copper-cobalt-uranium belt (discussion), 904
renierite, Kipushi mine, 563
Belgium, ottrelite schists, Stavelot massif, 314
Bell, A. M., and Scott, F. J., *Alteration associated with ore at Gaspe copper mines*, 516–520
Bell, P. L., and Mackenzie, H. B., on gold, 69
Benson, C. B., Wangaard, J. C., and Johnson, H. A., on copper, 3
Bentonite, uranium extraction, 654, 656
Berek, M., review of book by, 224
Berthoud, E. L., on uranium, 652
Beryl, 506, 512, 912
Arizona, Midnight Owl mine (review), 336
New England pegmatite deposits (review), 793

Beryl—*Continued*
South West Africa, pegmatite deposits (abstract), 117
Berz, K. C., on melnikowite, 258
Beveridge, W. I. B., on ideas, 877
Beyschlag, F., Vogt, J. H. L., and Krusch, P., on Idria mercury deposit, Yugoslavia, 479
Bibliography, anthophyllite-vermiculite deposit, Hafafit, Egypt, 327
aphanitic igneous rocks for aggregates, 438
C. enigmaticum and isotopes, 543
coal, Nova Scotia, 862
coal rank and thermal analysis, 309
cobalt, geochemical prospecting, Cobalt, Ont., 387
cobalt-nickel occurrences, Silver Summit mine, Idaho, 758
Copper Cities area, Ariz., 377
copper deposit, White Pine, Mich., 716
Day Book dunite mass, N. C., 220
Elizabeth copper mining district, Vt., 30
geology and ore deposits, Baja Calif., Mexico, 74
gold, O'Brien mine, Que., 430
gold pan and panning, 651
gold-uranium, genesis, Witwatersrand, 540
graphite, Dillon, Mont., 43
ground water withdrawal and surface subsidence, Texas, 422
Guadalupe mine, Mexico, 500
Hicks Dome area, Ill., 902
ilmenite deposit, Abu Ghalqa, Egypt, 87
inclusion fluids, composition, 210
lignite, petrography, N. Dakota, 100
lithium pegmatite deposits, Canada, 515
luminescence of rocks, 726
magnetite, authigenic origin, 102
mercury deposition, Terlingua, Texas, 196
Mindamar mining district, Nova Scotia, 411
mineral deposits, Yugoslavia, 490
mining camps of the West (review), 443
ore deposition and metallic melting points, 574
ore-forming fluid, 733
ores, Palomas district, New Mexico, 778
pyrite deposits, Goudreau, Ont., 316
Roan Antelope copper deposit, Northern Rhodesia, 614
scheelite, Little Cottonwood stock, Utah (communication), 223
sedimentary facies of iron formations, 281
silica of ore deposits, 890
solution flow, Lamaque No. 6 vein, Que., 536
sulphide phases formation, 751
terms of mining geology, 204
thiophile elements of ore deposits, 876
Bibliography—*Continued*
tungsten ore bodies, Salmo, B. C., 638
uraninite deposits, Colo. Plateau, 361
uraninite ore, Caribou, Colo., 173
uranium extraction by materials, 658
Bieberite, 356, 756
Billings, M. P., on metamorphism, 5
review of book by, 913
Billingsley, P., and Locke, A., on copper, 73
Biographies, American science leaders (review), 443
Biotite, 12, 22, 138, 147, 619, 809, 822
Birch, F., and Bancroft, D., on basalt, 865
Bischoff, C. T., on geochemical anomalies, 387
Bismodigenite, 750
Bismuth, melting point and occurrence, 562
Bitumen in inclusions, 209
Blanchard, R., on banding, 409
Blanchard, R., and Hall, G., on layering, 409
Boehmite, 488
Boese, E., and Wittich, E., on Cretaceous, Baja Calif., Mexico, 55
Bonanza Trail, ghost towns and mines (review), 442
Books received, 109, 227, 340, 444, 548, 666, 796, 914
Bor copper deposit, Yugoslavia, 473
Borchert, H., on copper, 737
Bornite, 588, 591, 593, 611, 695, 737, 740, 768
Boswell, K. C., with Czech, H., translation by, 227
Boudinage, 25, 26
Boutwell, J. M., on uranium, 652
Bowen, N. L., and Tuttle, O. F., on serpentinization, 214
on talc, 775
Boyd, J., analysis by, 216
Boydell, H. C., on colloform textures, 162
Brannock, W. W., *et al.*, on hot springs, 181
Braune, H., on diffusion, 740
Brazil, iron, Congonhas district (discussion), 659
itabirites, 240, 257
Breccia, 200, 203
Brazil, Congonhas district (discussion), 660
Guadalupe mine, Mexico, 498
Hicks Dome, Illinois, 891, 893, 901
ore and rock, Elizabeth mine, Vt., 22, 26
Trepca ore deposit, Yugoslavia, 462
Breger, I. A., on vacuum technique, 295
Breger, I. A., and Deul, M., on uranium, 657
Breger, I. A., and Whitehead, W. L., on coal, 657
Bresovica chromite district, Yugoslavia, 483

British Columbia, Canada, The Emerald, Feeney and Dodger tungsten orebodies, Salmo (Ball), 625
The Jersey lead-zinc deposit, Salmo (Whishaw), 521
Coast Range batholith, 61
Brobst, D. A., with Kulp, J. L., *Notes on the dunite and the geochemistry of vermiculite at the Day Book dunite deposit Yancey County, North Carolina*, 211
Broderick, T. M., on arsenic, 911
on magnetite, 247
Broggi, J. A., editorial by, 431
Brombert, B. A., reviews by, 107, 665
Brooker, E. J., and Nuffield, E. W., on uraninite, 169
Brown, J. S., on hydrothermal solutions, 557
on magnetite, 258
Brown, J. S., Emery, J. A., and Meyer, P. A., Jr., *Explosion pipe in test well on Hicks Dome, Hardin County, Illinois*, 891–902
Brown, R. A., on O'Brien mine, Que., 423
Brown, W. L., on ore, 724
on ore bodies, 407
Bruce, E. L., on gold-silver ratios, 427
on pyrite, 312
Brujewicz, S. W., on iron oxides, 274
Bucher, W. H., on cryptovolcanic structures, 895
Buddington, A. F., on gold, 58
Buerger, M. J., and Buerger, N. W., on sulphides, 735
Buerger, N. W., on copper, 735
Buerger, N. W., and Buerger, M. J., on chalcopyrite, 737
Building stones, staining (abstract), 809
Bureau of Mineral Resources, Geology and Geophysics in the Rum Jungle province, Northern Territory, Australia, Uranium exploration by the (Fisher and Sullivan), 826
Burfoot, J. D., on talc, 775
Bush, A. L., and Stager, H. K., abstract by, 805
Butler, B. S., on ore deposits, 875
Butler, B. S., and Vanderwilt, J. W., on molybdenite, 222
Butler, B. S., *et al.*, on copper, 677, 908
Butler, B. S., *et al.*, on pyrite, 357
Butler, R. D., on sphalerite, 410
Byerly, P., on Sierra Nevada batholith, Calif., 58

Cadmium, melting point and zoning, 557
Cady, W. M., McKelvey, V. E., and Wells, F. G., on iron, 279
Caillère, S., and Kraut, F., review of memoir by, 441
Calabash, 645
Calcite, 133, 137, 138, 762, 766
inclusion stability (discussion), 787
uranium extraction, 654
California, copper-zinc, Shasta district, structural controls (abstract), 120
mineral deposits, Sierra Nevada batholith, 58
subsidence by oil and water withdrawals, 419, 420
Sulphur Bank hot springs (abstract), 807
Calkins, F. C., on banding, 408
Calkins, F. C., and Butler, B. S., on quartz monzonite, 221
Callaway, H. M., *Expense of exploration*, 328–330
Calomel, 179
Cameron, E. N., abstract by, 117
Cameron, E. N., *et al.*, on lithium, 502
on pegmatitic fluid, 218
review of professional paper by, 792
Camsell, C., mining industry, Canada (review), 547
Canada, Pegmatitic lithium deposits in (Rowe), 501
mineral industry (review), 547
uranium, Lake Athabaska deposit, origin, 563
Canfield, F. A., Hillebrand, W. F., and Schaller, W. T., on mosesite, 179
Cannel coal, uranium extraction, 654
Carbon, isotopes (discussion), 542
Carbon dioxide, occurrence in inclusions, 331
Carbon dioxide in inclusions, 207
Carbonate veins, Goudreau area, Ont., 315
Carbonates, 461
iron formation facies, 236, 251, 272
Mindamar mining district, Nova Scotia, 395
ore shale, Roan Antelope copper deposit, Northern Rhodesia, 603
Carbonatization, 881
Carbonatization of diabase dikes, Mindamar mine, Nova Scotia, 405
Caribou, Colorado, Mineralogy of a uraninite deposit at (Wright), 129
Carnotite, 360, 804
Cassiterite, South West Africa, pegmatite deposits (abstract), 117
Castaño, J. R., and Garrels, R. M., on iron oxide, 256
on sea water, 180
Cat Lake—Winnipeg River lithium pegmatites, Manitoba, 507
Catalyst, clay and mercury deposition, 193, 195
Cayeux, L., on ooliths, 256
Cerussite, 772
Chalcedony, 159, 160
cinnabar in chalcedony, 195

Chalcocite, 123, 358, 368, 374, 475, 588, 591, 594, 598, 611, 676, 702, 735, 749, 769
Chalcopyrite, 1, 11, 21, 27, 120, 123, 159, 357, 358, 362, 367, 374, 402, 407, 410, 474, 588, 591, 592, 607, 610, 696, 737, 762, 768, 774
Chalcopyrrhotite, 737
Chamosite, 265
Charcoal, uranium extraction, 654
Charnockites (review), 338
Chemical composition, altered rock, Caribou, Colo., 142
anthophyllite and vermiculite, Egypt, 325
bauxites, Yugoslavia, 489
coal, Nova Scotia, 839, 851
cobalt content of soils, Cobalt, Ont., 381
feldspar, Saskatchewan, 620
feldspar concentrate, Que., 514
fluorite, Hicks Dome, Ill., 898
ilmenite ore and gabbro, Egypt, 86
iron formations, 250, 271
ore, Palomas district, New Mexico, 776
Trepča lead-zinc deposit, Yugoslavia, 464
rocks, Day Book dunite mass, N. C., 216
Needle Mtn., Gaspe, Que., 518
southwestern U. S., 878
schist, Mindamar area, Nova Scotia, 394
uraninite, Colo., 169
Chemical industries, mineral needs (review), 913
Chemistry, silicates (review), 546
textbooks (reviews), 107, 794
Chert, 238, 273
Chisholm, E. O., on zinc, 387
Chlorite, 136, 261, 265, 401, 440
Chromite, 49
Day Book dunite mass, N. C., 215, 216
Yugoslavia, 454, 481
Cinnabar, 176, 188, 479, 807
Cissarz, A., on mineral deposits, 455
Clarain, 855
Clarke, F. W., on rocks, 888
Clarke, O. M., on diabase, 572
Clarodurain, 848
Claussen, C. H., Driesen, A., and Rösch, S., review of book edited by, 224
Clausthalite, 356
Clay, mercury deposition by clays, 192
Cleavelandite, 501, 504, 508
Cloos, H., on grabens, 64
review of translated book by, 224
Coal, Great Britain (review), 665
Yugoslavia, 454
Coal and some other materials, Extraction of uranium from aqueous solution by (Moore), 652
Coal by differential thermal analysis, Investigation of rank in (Glass), 294
Coal from the Sydney and St. Rose coalfields, Nova Scotia, Petrographic examination of washed, screened and crushed samples of (Hacquebard and Lahiri), 837
Coalification, 307
Cobalt, 564, 569
occurrence in uraninite deposits, Colo. Plateau, 356
lateritic ores, Cuba (abstract), 117
Cobalt, Ontario, Geochemical prospecting at (Koehler, Hostetler, and Holland), 378
Cobalt and nickel in the Silver Summit mine, Coeur d'Alene district, Idaho, The occurrence of (Fryklund and Hutchinson), 753
Cobalt bloom, 756
Coefficient of diffusion, 742
Coeur d'Alene district, Idaho, The occurrence of cobalt and nickel in the Silver Summit mine (Fryklund and Hutchinson), 753
Coffinite, 356
Colligan, R. V., abstract by, 117
Collins, W. H., and Quirke, T. T., on ottrelite, 314
Collins, W. H., Quirke, T. T., and Thomson, E., on iron formation, 276
Colloform textures of carbonates, 395, 407
Colloids, mercury sulphide, 191, 195
silica (review), 546
Colorado, Mineralogy of a uraninite deposit at Caribou (Wright), 129
coal, thermal curves, 297
Front Range mineral belt, 866
tungsten, Cold Spring mine (abstract), 123
uraninite deposits, Colo. Plateau, 351
uranium, Central City deposit, origin, 731
uranium in coal, 652
Colorado Plateau, Widespread occurrence and character of uraninite in the Triassic and Jurassic sediments of the (Rosenzweig, Gruner, and Gardiner), 351
ore deposits, genesis, 568
uranium and fossil wood, 652
uranium-vanadium field (discussion), 904
reserves (abstract), 805
Columbite, 506
Arizona, Midnight Owl mine (review), 336
South West Africa, pegmatite deposits (abstract), 117
Communications—
Aphanitic igneous rocks, a new source of bloated lightweight aggregate (Riley), 435
Arsenic and native copper (Drier), 908
Disseminated scheelite in the Little Cottonwood stock, Utah (Erickson and Sharp), 221

Communications—Continued
Low temperature authigenic magnetite, Friedman, 101
Use of aerial photographs for the graduate thesis (Ruff), 779
Concentrates, processing, 650
Conley, J. E., *et al.*, on aggregates, 435
Continents, history (review), 105
Cooke, H. C., James, W. F., and Mawdsley, J. B., on ore bodies, 407
Copper, Arizona, Globe-Miami district, structure (abstract), 122
Silver Bell, structure and mineralization (abstract), 123
Baja Calif. deposits, Mexico, 44, 67, 69, 72
California, Shasta district (abstract), 120
deposition temperature, 561
native copper and arsenic (communication), 908
native copper deposits (abstract), 808
occurrence in rocks, 864, 866
Ontario, Sudbury basin (review), 442
Rum Jungle area, Northern Territory, 831
sulphide phases, formation, 734
United States, porphyry deposits, structure (abstract), 122
Yugoslavia, 454, 473
Copper Cities copper deposit, Globe-Miami district, Arizona (Peterson), 362
Copper deposit, Ontonagon County, Michigan, The White Pine (White and Wright), 675
Copper deposit of Northern Rhodesia, The origin of the Roan Antelope (Davis), 575
Copper deposits at the Mindamar mine, Nova Scotia, Paragenesis of the zinc-lead (Watson), 389
Copper mine, Vermont, The Elizabeth (McKinstry and Mikkola), 1
Copper mines, Alteration associated with Gaspe (Bell and Scott), 516
Cordierite, 506
Cornwall, H. R., and White, W. S., abstract by, 808
Corundum, 218
Corycium enigmaticum, 538
Creasey, S. C., on banding, 409
Counter and scintillation equipment, 149
Courtright, J. H., with Richard, K., abstract by, 123
Covellite, 358, 368, 474, 735, 762, 769
Craig, H., on carbon, 541
Cretaceous, Baja Calif., Mexico, 52
Crickmay, C. H., on Juro-Sonora land, 52
Cryoluminescence, 719, 722
Cryptovolcanic structures, 891, 895
Cuba, lateritic nickel-cobalt ore (abstract), 117
Cubanite, 21, 737
Cupola, 199, 203
Cuprodigenite, 739
Czech, H., and Boswell, K. C., review of book translated by, 227

Dacite, 436
Dake, C. L., on pre-St. Peter sediments, 893
Daly, R. A., on igneous rocks, 879, 882
on composition, 436
on terms, 199
on isostatic compensation, 867
Daniels, F., and Saunders, D. F., on luminescence, 718
Davidite, 815, 822
Davidson, C. F., on uraninite, 537
Davidson, C. F., and Bowie, S. H. U., on asphaltite, 359
on thucholite, 537
on uranium, 652
Davidson, D. M., *Human relationships in future mineral procurement*, 345–350, discussion, 906
on bornite, 595
Davis, G. R., *The origin of the Roan Antelope copper deposit of Northern Rhodesia*, 575–615
Davis, R. E., and Foote, F. S., on direct transfer method, 781
Davis, W. M., review of essays by, 914
Davy, H., on inclusions, 207
Day Book dunite deposit, Yancey County, North Carolina, Notes on the dunite and the geochemistry of vermiculite at the (Kulp and Brobst), 211
De Weisse, J. G., on bauxite, 487
Deans, T., on Kupferschiefer, 714
Decrepitation, inclusions in quartz, Que., 530
Denson, N. M., Bachman, G. O., and Zeller, H. D., on uranium, 652
Deposit, Ontonagon County, Michigan, The White Pine copper (White and Wright), 675
Deposition, Metallic melting point and ore (Sullivan), 555
Deposition of quicksilver ores in the Terlingua district, Texas, Transportation and (Thompson), 175
Deposits, Genesis of the Witwatersrand gold-uranium (Miholić), 537
The marginal luminescence of certain intrusive rocks and hydrothermal ore (McDougall), 717
The origin of the silica of the bedrock hypogene ore (Schmitt), 877
Deposits at the Mindamar mine, Nova Scotia, Paragenesis of the zinc-lead-copper (Watson), 389
Derby, O. A., on the batêa, 645
Derry, D. R., on spodumene, 513
Derry, D. R., and Hertz, H. C., on pyrite, 724
Descloizite, 772
Desjardins, L., on floating line method, 782
Deuchar, J., on inclusions, 206

Déverin, L., on ironstones, 279
Dewey, H., and Flett, J. S., on cherty sediments, 277
Dextral fold, 17
Diabase, dikes, Mindamar mine, Nova Scotia, 403
Diagenesis, 274
Diagrams—
alpha activity of rock, Colo., 132
alteration zones, Day Book dunite, N. C., 215
analyses, iron silicates, 266
auger, 381
batêa and gold pan, 646
coal, petrographic analyses, Nova Scotia, 846
copper content of sediments, White Pine, Mich., 697
ilmenite ore and gabbro, 80
inclusion fluids, pressure relations, 788
ore bodies, Radium Hill mine, South Australia, 823
oxides, heat of formation, 903
oxides suitable for bloating, 436
petrographic constituents, lignite, N. Dakota, 94
pyrite mass, Goudreau area, Ont., 313
radioactivity of small batholiths, 719
schist in sulphides, 22, 26
sial and metallic segregations, migration, 870
structure of lithium pegmatites, Man., 509
sulphide phases in solid state, formation, 743
sulphide zoning, Roan Antelope copper belt, Northern Rhodesia, 588, 590
thermal curves, coal, 297, 305
Vein No. 6, Lamaque mine, Que., 531
water flow along a barrier, 186
Diamonds (review), 664
Diatoms, kaolin formation, 538
Diatremes, 200, 203, 896
Dickson, F. W., and Tunell, G., abstract by, 807
Dictionary, mineralogical terms (review). 338
mining terms (review), 443
Differentiation, deuteric differentiation. Utah, 731
Diffusion, 206
arsenic into copper (communication). 909
metals, 564, 568
sulphides and chalcocite, 734, 741
Digenite, 735, 740
Dikes, Abu Ghalqa area, Egypt, 80, 84
Alamo district, Baja Calif., Mexico, 68
chromite districts, Yugoslavia, 481
Copper Cities area, Ariz., 365
diabase, Mindamar mine, Nova Scotia, 389, 397, 403, 411
Dikes—*Continued*
Egypt, Hafafit area, 320
Elizabeth copper mine, Vt., 16
Guadalupe mine, Mexico, 493, 495
Hicks Dome area, Illinois, 895
Montana, Boulder batholith (abstract), 125
Palomas district, New Mexico, 777
Pascalis Township, Que., 721
Salmo district, Brit. Columbia, 523, 628, 630
Silver Bell district, Arizona (abstract), 123
uranium near bostonites, Colo., 731
Dillon, Montana, Occurrence and origin of the graphite deposits near (Ford), 31
Dimitrijević, B., on Avala district, Yugoslavia, 469
Diopside, 16, 517
Discussions—
Comments on the iron deposits of the Congonhas district, Minas Gerais, Brazil (Guild), Dorr, 659
Geology of Australian ore deposits: Broken Hill (King, H. F., *et al.*), Gustafson, 783
Human relationships in future mineral procurement (Davidson), Just, 906
Land-surface subsidence and its relation to the withdrawal of ground water in the Houston-Galveston region, Texas (Winslow and Doyel), Pratt, 790
Metallic melting point and ore deposition (Sullivan), 903, 904
Origin of soft iron ores of Michigan—A reply (Mann), 439
Sedimentary facies of iron formation (James), Percival, 905
Some considerations regarding liquid inclusions as geologic thermometers (Skinner), Smith, 331; (Skinner), Richter and Ingerson, 786
What killed *Corycium enigmaticum*? (Craig), (Jensen), Rankama, 541
Djakovica chromite district, Yugoslavia, 483
Dolomite, 390, 395
calcination (abstract), 809
Dome, 203
Donath, M., on copper, 476
Donnay, J. D. H., Nowacki, W., and Donnay, G., review of book by, 663
Dorr, J. V. N., II, discussion by, 659
on sediments, 257
Dorr, J. V. N., II, Guild, P. W., and Barbosa, A. L. M., on iron, 659
Douglas, G. V., *Pyritic mineralization in the Goudreau area of Algoma, Ontario,* 310–316
Doyel, W. W., with Winslow, A. G., *Land-surface subsidence and its relation to the withdrawal of ground water in the Houston-Galveston region, Texas,* 413

Dreyer, R. M., on cinnabar, 180
Drier, R. W., communication by, 908
Drilling, lithium pegmatites, Que., 513
Rum Jungle area, Northern Territory, 835
du Preez, J. W., on ferric oxide, 246
Dulong, 645
Dunham, R. J., review by, 441
Dunite and the geochemistry of vermiculite at the Day Book dunite deposit, Yancey County, North Carolina, Notes on the (Kulp and Brobst), 211
Dunn, J. A., discussion by, 332
on iron formations, 276
Durham, J. W., on Occidentalia, 63
Dutton, C. E., on slate, 248

Eardley, A. J., on Jurassic, 50
Earth, population and production (review), 339
travel narrative (review), 224
Ebbutt, F., on gold, 536
Economic geology, neglected fundamentals (editorial), 431
Editorials—
Some neglected fundamental practices of economic geology (Broggi), 431
Edwards, A. B., on banding, 409
on iron, 257
Egypt, Anthophyllite-vermiculite deposit of Hafafit, Eastern Desert (Amin and Afia), 317
The ilmenite deposit of Abu Ghalqa (Amin), 77
Einstein equation, 748
Eisenmann, L., on chalcocite, 747
Eitel, W., review of book by, 546
Elements of the Tertiary ore deposits of the southwest, A suggested source of the thiophile (Hillebrand), 863
Elizabeth copper mine, Vermont (McKinstry and Mikkola), 1
Elliot, C. D., on coke, 842
Emeléus, H. J., *et al.*, on hydrous minerals, 729
Emery, J. A., with Brown, J. S., and Meyer, P. A., Jr., *Explosion pipe in test well on Hicks Dome, Hardin County, Illinois*, 891
Emery, K. O., and Rittenberg, S. C., on pH and depth of burial, 275
Emmons, S. F., and Merrill, G. P., on structure, Baja Calif., Mexico, 65
Emmons, W. H., on ferric sulphate, 777
on gold, 429
on ore solutions, 873
Enargite, 474
Engel, A. E. J., on talc, 400
Enrichment, copper, Copper Cities deposit, Ariz., 374
Majden Pek copper district, Yugoslavia, 477
ores, Palomas district, New Mexico, 774
Entwistle, L., analyses by, 878
Epidote, 722
Epsomite, 773, 777
Erickson, M. P., and Sharp, B. J., communication by, 221
Erlenmeyer, H., and Gärtner, H., on hydrous minerals, 729
Erythrite, 756
Escher, B. G., on grabens, 64
Eskola, P., on greenschist facies, 245
on skarn, 633
Eskola, P., Vuoristo, U., and Rankama, K., on carbonate, 245
Ethmolith, 200, 203
Everhart, D. L., abstract by, 118
on uraninite, 168
Everhart, D. L., and Wright, R. J., on uraninite, 166
Exinite, 847
Expense of exploration (Callaway), 328
Experiments, bloating tests on igneous rocks, 436
differential thermal analysis of coal, 295
inclusions in quartz, filling or leakage (discussion), 786
sulphide phases formation in solid state, 738, 744
uranium extraction by materials, 653
Exploration, Expense of (Callaway), 328
Exploration by the Bureau of Mineral Resources, Geology and Geophysics in the Rum Jungle province, Northern Territory, Australia, Uranium (Fisher and Sullivan), 826
Explosion pipe in test well on Hicks Dome, Hardin County, Illinois (Brown, Emery, and Meyer), 891
Exsolution intergrowths, ilmenite and hematite, Egypt, 83, 86
Eyles, V. A., review of memoir by, 108

Fairchild, J. G., analysis by, 271
Falkmanite, 738
Faults, 883
Baja Calif., Mexico, 44, 64
Brazil, Congonhas district (discussion), 660
Cobalt district, Ont., 379
Copper Cities area, Ariz., 364
Elizabeth copper mine, Vt., 18
Guadalupe mine, Mexico, 493, 495
Hicks Dome area, Illinois, 894
New Mexico, Santa Rita intrusive (abstract), 122
ottrelite schists near faults, 314
Palomas mining district, New Mexico, 761
Rum Jungle area, Northern Territory, 830
Salmo tungsten district, B. C., 525, 625, 628
Silver Summit mine, Idaho, 755, 757
Upper Miss. Valley zinc-lead district (abstract), 120

Faults—*Continued*
White Pine district, Mich., 691, 706
Yugoslavia, 459, 472, 479, 481
Feely, H. W., and Kulp, J. L., abstract by, 806
Feigl, F., on cobalt, 756
Feldspar, 508, 513, 618, 641, 648
Arizona, pegmatite belt (review), 335
Fenner, C. N., on silica, 882
Ferberite, 124
Fertilizer, uranium content, Wisconsin (abstract), 803
Fick's Law, 745
Finland, *Corycium enigmaticum*, 538
Finnell, T. L., on replacement, 358
Fischbeck, K., and Dorner, O., on copper, 748
Fischer, R. P., on Morrison formation, 353
Fischer, R. P., and Hilpert, L. S., on uranium, 652
Fisher, J. C., Hollomon, J. H., and Turnbull, D., on water, 193
Fisher, M. S., on gold, 430
Fisher, N. H., abstract by, 118
on gold, 426
on silver, 560
Fisher, N. H., and Sullivan, C. J., *Uranium exploration by the Bureau of Mineral Resources, Geology and Geophysics, in the Rum Jungle province, Northern Territory, Australia*, 826–836
Fisher, N. H., with Sullivan, C. J., abstract by, 119
Fjords, black mud deposition, Norway, 539
Flett, J. S., and Hill, J. B., on anthophyllite, 326
Flow of late stage solutions in the Lamaque No. 6 vein, Direction of (Smith), 530
Flowage of sulphides, Nova Scotia, 409, 410
Fluids at various stages—A suggested approach, Nature of the ore-forming (Ingerson), 727
Fluids from inclusion data, Composition of vein-forming (Smith), 205
Fluorite, 222
Hicks Dome, Illinois, 897
Folding, incompetent layer shearing, 312
Roan Antelope copper belt, Northern Rhodesia, 584
Folds, Baja Calif., Mexico, 55
Brazil, Congonhas district (discussion), 660
Broken Hill area, New South Wales (discussion), 785
Cobar copper deposit, New South Wales, 561
Elizabeth mine, Vt., 8, 17
Needle Mtn., Gaspe, Que., 516
Radium Hill district, South Australia, 818
Roan Antelope copper belt, Northern Rhodesia, 578
Folds—*Continued*
Salmo district, Brit. Columbia, 521, 524, 628
synclines, Vermont, 3
Upper Miss. Valley zinc-lead district (abstract), 120
White Pine district, Mich., 691
Yugoslavia, 466, 472, 481
Ford, R. B., *Occurrence and origin of the graphite deposits near Dillon, Montana*, 31–43
Forgan, C. B., on Trepča area, Yugoslavia, 462
Formation of intermediate sulfide phases in the solid state (Ross), 734
Formulas, Bernoulli theorem, 178
cost of exploration, 329
pegmatite reaction with olivine, 219
sulphide phase, 741
talc formation from dolomite, 775
waters, interface slope, 185
Fortier, Y. O., on Yellowknife-Beaulieu region, N.W.T., 504
Fossils (review), 107
Fourmarier, P., review by, 103
Fractional panning, 650
Fractures, Radium Hill uranium mine, South Australia, 821, 824
Yugoslavia, 459
France, iron, Lorraine basin (review), 441
Frederickson, A. F., on bentonite, 656
Freeman, O. W., and Martin, H. W., review of book by, 794
French Guinea, iron, Conakry deposit, 905
Freudenberg, W., on iron, 67
Freundlich, H., on ions, 152
Friedensburg, F., on Yugoslav mining industry, 454
Friedman, I., on solutions, 210
Friedman, S. A., communication by, 101
Fries, C., and Schmitter, E., on pegmatites, 47
Frueh, A. J., Jr., on bornite, 740
Fryklund, V. C., Jr., and Hutchinson, M. W., *The occurrence of cobalt and nickel in the Silver Summit mine, Coeur d'Alene district, Idaho*, 753–758
Fuchsite, 723
Fusain, 99, 838, 841, 857
Fyfe, W. S., on atomic bonds, 565

Gabb, W. M., on conglomerates, 50
Galena, 21, 71, 155, 157, 222, 368, 402, 461, 471, 496, 526, 539, 762, 765, 768
Galliher, E. W., on sulphuretum, 242
Galveston region, Texas, Land-surface subsidence and its relation to the withdrawal of ground water in the Houston (Winslow and Doyel), 413
Gardiner, L., with Rosenzweig, A., and Gruner, J. W., *Widespread occurrence and character of uraninite in the Triassic and Jurassic sediments of the Colorado Plateau*, 351

Garlick, G. F. J., on luminescence, 719
Garlick, W. G., and Brummer, J. J., on granites, 570
on Roan Antelope copper belt, Northern Rhodesia, 576
Garnet, 7, 11, 23, 35
Garrels, R. M., and Dreyer, R. M., on diffusion, 565
Garrels, R. M., Jones, C. L., and Howland, A. L., on a circulation apparatus, 653
on solutions, 653
Garside, E. B., review of translation by, 224
Gas, mercury deposition from gases, 184, 189
Gaspe copper mines, Alteration associated with ore at (Bell and Scott), 516
Geijer, P., on oxide sediments, 257
Gems and pearls (review), 663
Genesis, copper ores, Roan Antelope deposit, Northern Rhodesia, 609, 611
Vermont, 5
gold-quartz, Pacific belt, 57, 59, 61
ilmenite deposit, Abu Ghalqa, Egypt, 84
ore bodies and dikes, Nova Scotia and Que., 407
ore deposits and blister hypothesis (abstract), 810
ore deposits and metallic melting points, 568
Genesis of the Witwatersrand gold-uranium deposits (Miholić), 537
Geochemical prospecting, Rum Jungle area, Northern Territory, 835
uranium content of rivers, Wis. (abstract), 803
Geochemical prospecting at Cobalt, Ontario (Koehler, Hostetler, and Holland), 378
Geochemistry, corundum, 218
definition, 202
gold, solubility and enrichment, 429
mineralizing fluids, 884
ore-forming fluids, 727
oxyphile elements (discussion), 903
system HgS—Na_2S—H_2O (abstract), 807
textbook (review), 666
uranium, accumulation in plants (abstract), 803
uranium in rivers, Wisconsin (abstract), 803
Geochemistry of vermiculite at the Day Book dunite deposit, Yancey County, North Carolina, Notes on the dunite and the (Kulp and Brobst), 211
Geography, Baja California, 46
essays by W. M. Davis (review), 914
North America (review), 665
Pacific Northwest (review), 794
Geologic history, ore deposition, magmatism, and orogeny, 871
Geological maps, Baja Calif., Mexico, 45
Copper Cities area, Ariz., 364
Day Book dunite deposit, N. C., 212
Guadalupe mine, Nuevo Leon, Mexico, 494
Hafafit area, Egypt, 319
Hicks Dome area, Illinois, 894
Jersey lead-zinc deposit, 522
Katherine-Darwin region, Northern Territory, 829
Nkana concession, Northern Rhodesia, 577
Pascalis Township, Que., 722
Preissac-Lacorne batholith, Que., 512
Radium Hill uranium district, South Australia, 817
Salmo tungsten district, Brit. Columbia, 629
Stirling area, Nova Scotia, 392
Tennessee (review), 544
Wadi Abu Ghalqa, Egypt, 78
White Pine area, Mich., 684, 707
Yugoslavia, 457
Geological tool, The gold pan: A neglected (Mertie), 639
Geologists, R. Rao, autobiography, India (review), 547
Geology, Angaur Island (abstract), 810
Cobalt district, Ont., 378
Coeur d'Alene district, Idaho, 754
Cold Spring tungsten mine, Colo. (abstract), 123
Copper Cities copper deposit, Ariz., 363
copper minerals, White Pine district, Mich., 695
Day Book dunite area, N. C., 213
Dillon graphite district, Mont., 35
Elizabeth copper mine, Vermont, 3, 5
Goudreau area, Ontario, 311
Granite Mtn. area, Utah (review), 795
Guadalupe mine, Nuevo Leon, Mexico, 493
Hafafit anthophyllite-vermiculite deposit, Egypt, 317
historical geology, textbook (review), 103
Houston-Galveston region, Texas, 415
ilmenite deposit, Abu Ghalqa, Egypt, 77
Jersey lead-zinc deposit, B. C., 523
Katherine-Darwin region, Northern Territory, 828
Lac La Ronge district, Saskatchewan, 617
Mindamar mining district, Nova Scotia, 391
O'Brien mining district, Que., 423
Palomas (Hermosa) district, New Mexico, 761
pegmatitic lithium deposits, Canada, 504
Roan Antelope copper belt, Northern Rhodesia, 576
Salmo district, Brit. Columbia, 628
salt and cap rock, Gulf Coast salt domes (abstract), 805

Geology—*Continued*
Tennessee, east Tenn. (review), 544
Yugoslavia, mineralized areas, 455
Geology and ore deposits of Baja California, Mexico (Wisser), 44
Geology as defined and used, Certain terms of mining (Schmitt), 198
Geology of the Radium Hill uranium mine, South Australia (Parkin and Glasson), 815
Geomorphology, textbooks (reviews), 227, 794
Geophysical prospecting, electric well logs, Hicks Dome, Ill., 898
Rum Jungle area, Northern Territory, 834
Geophysics, definition, 202, 203
Georgia, pavements, De Kalb Co., 643
Geosynclines (review), 104
Baja Calif., Mexico, 54
Huronian, Lake Superior region, 279
Germanite, 808
Germanium, South West Africa, Tsumeb deposit, germanite and reniérite (abstract), 808
Germany, coal, thermal curve, 299
Gersdorffite, 159, 753, 756
Gill, J. E., on hematitic rocks, 257
on iron formation, 440
Gilluly, J., on Ajo district, Ariz., 869
on silica, 880
Gilluly, J., and Grant, U. S., on subsidence, 419
Gilsonite, uranium extraction, 654, 656
Glass, H. D., *Investigation of rank in coal by differential thermal analysis*, 294–309
Glasses, silicates (review), 547
Glasson, K. R., with Parkin, L. W., *The geology of the Radium Hill uranium mine, South Australia*, 815
Glauconite, 263
Globe-Miami district, Arizona, Copper Cities copper deposit (Peterson), 362
Goddard, E. N., *et al.*, on rock color, 405
Goethite, 441, 773
Gold, 402, 537, 772
Baja Calif. deposits, Mexico, 68
British Columbia, Sheep Creek district, 524
deposition temperature, 560
enrichment by meteoric waters, 426, 429
Pacific quartz-gold belt, 44, 57
Quebec, 723
Lamaque No. 6 vein, 530
U. S., mining camps of the West (review), 442
Yugoslavia, 454, 461, 470, 475, 478
Gold mine, Kewagama, Quebec, Vertical zoning at the O'Brien (Mills), 423
Gold pan: A neglected geological tool (Mertie), 639
Goldschmidt, V. M., on atomic bonds, 565
on skarn, 633
review of book by, 666
Gold-uranium deposits, Genesis of the Witwatersrand (Miholić), 537
Goranson, R. W., on magma, 865
Gossans, hematite-limonite, Rum Jungle area, Northern Territory, 832
Yugoslavia, 466, 467, 474
Goudreau area of Algoma, Ontario, Pyritic mineralization in the (Douglas), 310
Grabens, 44, 64
Graf, D. L., and Lamar, J. E., abstract by, 809
Granigg, B., on ore deposition, 468
Granite, 436
graphic granite, N. W. T., 506
mapping in southeast U. S., 644
radioactivity, Katherine-Darwin region, Northern Territory, 828
Granitization, 566
oxyphile elements, segregation, 561
Granules and ooliths, 255
Graphite, carbon in iron formations, 251
origin, 542
uranium extraction, 654
Graphite deposits near Dillon, Montana, Occurrence and origin of the (Ford), 31
Graphs—
artesian pressure head declines, Houston, Texas, 416
chemical analyses, rocks, Needle Mtn., Gaspe, Que., 518
coal analyses, Nova Scotia, 838
cobalt content of glacial materials, Ont., 382
gold ratio to all precious metals, O'Brien mine, Que., 425
histograms, Hamp well sand, Ill., 900
mercury sulphides, solubility, 190
radioactivity adjacent to ore contacts, 719
stability fields of iron minerals, 241
sulphide phases formation, 748
uranium extraction by materials, 655
Graton, L. C., on mineralizing fluids, 884
Gray, A., on Roan Antelope copper belt, Northern Rhodesia, 576
Greenalite, 236, 263, 264
Griffith, R. F., abstract by, 119
Grim, R. E., and Rowland, R. A., on differential thermal analysis, 294
Grip, E., and Ödman, O. H., on thucholite, 537
Gross, W. H., on radioactivity, 720, 829
on uranium, 562
Ground water, Angaur Island (abstract), 810
Copper Cities copper deposit, Ariz., 373
Rum Jungle area, Northern Territory, 833

Ground water in the Houston-Galveston region, Texas, Land-surface subsidence and its relation to the withdrawal of (Winslow and Doyel), 413
Grout, F. F., on calcite, 400
on hematitic rocks, 257
Grout, F. F., and Thiel, G. A., on stilpnomelane, 264
Gruner, J. W., on iron, 242, 257
on iron silicates, 263
on uraninite, 351
on vermiculite, 218
Gruner, J. W., and Gardiner, L., on uraninite, 351
Gruner, J. W., Gardiner, L., and Smith, D. K., Jr., on asphaltite, 358
Gruner, J. W., Towle, C. C., and Gardiner, L., on uraninite, 351
Gruner, J. W., with Rosenzweig, A., and Gardiner, L., *Widespread occurrence and character of uraninite in the Triassic and Jurassic of the Colorado Plateau*, 351
Grunerite, 439
Grus or gruss, 641
Guadalupe mine, Nuevo Leon, Mexico, Ore controls at the (Whiting), 493
Guild, P. W., discussion of paper by, 659
Gulf Coast, salt domes, salt and cap rock (abstract), 805
sulphur in salt domes, origin (abstract), 806
Gushkin, G. G., and Prikhidko, P. L., on inclusions, 207
Gussow, W. C., on igneous rocks, 511
Gustafson, J. K., discussion by, 783
Gustafson, J. K., Burrell, H. C., and Garretty, M. D., on minerals, 784
Gypsum, 773

Hacquebard, P. A., on clarodurain, 849
on coal, 843
Hacquebard, P. A., and Lahiri, K. C., *Petrographic examination of washed, screened and crushed samples of coal from the Sydney and St. Rose coalfields, Nova Scotia*, 837–862
Hadley, J. B., on alteration, 219
on limestone, 61
Hafafit, Eastern Desert, Egypt, Anthophyllite-vermiculite deposit of (Amin and Afia), 317
Halite, 805
Hallimond, A. F., on ferrous carbonate, 244
review of book by, 226
Hallimond, A. F., *et al.*, on ooliths, 256
Hanna, G. D., on Cedros Island, Mexico, 49
Harder, E. C., and Johnston, A. W., on iron carbonate rock, 253
Hardin County, Illinois, Explosion pipe in test well on Hicks Dome (Brown, Emery, and Meyer), 891
Harker, A., on metamorphism, 200, 613
on oölitic hematites, 256
on ottrelite schists, 314
Harley, G. T., on Palomas district, New Mexico, 761
Harrel, M. A., and Eckel, E. B., on limestone, 89
Harris, F. R., and Harlow, E. H., on ground water, 419
Hawley, J. E., on pyrite, 248, 408
on sulphur, 28
Haycock, M. H., on ore minerals, 401
Hayes, A. O., on hematite, 256
Heavy minerals, separation by panning, 649
Heinrich, E. W., on pegmatites, 35
Heise, W., on Bor district, Yugoslavia, 473
Helfinstine, R. J., on coal, 303
Helium, 538
Hematite, 67, 83, 236, 249, 256, 262, 272, 285, 292, 773, 832
Hematite quartzites, 240
Henderson, J. F., on Yellowknife-Beaulieu region, N.W.T., 504
Henderson, J. F., and Jolliffe, A. W., on Yellowknife-Beaulieu district, N.W.T., 504
Herb Lake lithium pegmatite district, Man., 510
Herdsman, W. H., analysis by, 394
Hermann, F., on antimony, 479
Hermann, F., and Mempel, G., on lead and zinc, 462
(*Hermosa*) *district, southwestern New Mexico, Paragenesis of the ores of the Palomas* (Jicha), 759
Hess, F. L., on ores, 351
Hess, H. H., on dunite, 213
Hessite, 748
Heverly, J. R., on freezing point, 193
Heyl, A. V., abstract by, 120
Hicks Dome, Hardin County, Illinois, Explosion pipe in test well on (Brown, Emery, and Meyer), 891
Hiessleitner, G., on Janjevo mining district, Yugoslavia, 473
Hillebrand, J. R., *A suggested source of the thiophile elements of the Tertiary ore deposits of the southwest*, 863–876
Hillebrand, W. F., and Schaller, W. T., on kleinite, 179
Hindustan, charnockites (review), 338
hematite quartzites, 240, 276
Kolhan series (discussion), 332
R. Rao, autobiography (review), 547
Hirahara, E., on chalcocite, 749
Hirschi, H., and De Quervain, F., on peridotite, 50
Histograms, copper content of sediments, Mich., 697

Historical geology, textbook (review), 103
History, mining, Iron Mtn., B.C., 626
petrology (review), 913
Radium Hill uranium mine, South Australia, 816
uranium exploration, Northern Territory, 827
Vermont copper belt, 2
Yugoslav mining industry, 453
Hitchcock, E., *et al.*, on copper, 2
Hobbs, S. W., Wallace, R. E., and Griggs, A. B., on bleaching, 754
Hoffmann, H., and Kühlwein, F. L., on coke, 842
Holland, H. D., and Kulp, J. L., on scintillation technique, 149
Holland, H. D., with Koehler, G. F., and Hostetler, P. B., *Geochemical prospecting at Cobalt, Ontario*, 378
Hollings, H., and Cobb, J. W., on coal, 294
Holmes, A., on a time scale, 793
on the Jurassic, 59
Holmes, R. J., on minerals, 379
Hornblende, 11, 23
Hornstone, 201, 203
Hostetler, P. B., with Koehler, G. F., and Holland, H. D., *Geochemical prospecting at Cobalt, Ontario*, 378
Hotchkiss, W. O., on slate, 248
Houston-Galveston region, Texas, Land-surface subsidence and its relation to the withdrawal of ground water in the (Winslow and Doyel), 413
Howe, H. M., on copper, 2
Hubbert, M. K., on ground water, 182
Human relationships in future mineral procurement (Davidson), 345; discussion, 906
Hume, W. F., on granite, 77
on Hafafit Range, Egypt, 317
Hunter, C. E., on olivine, 211
Hunter, C. E., Murdock, T. G., and MacCarthy, G. R., on chromite, 211
Hurley, P. M., abstract by, 802
Hutchins, J. P., on chromite, 49
Hutchinson, M. W., with Fryklund, V. C., Jr., *The occurrence of cobalt and nickel in the Silver Summit mine, Coeur d'Alene district, Idaho*, 753
Hutchinson, R. D., on Mindamar mining district, Nova Scotia, 391
Hutton, C. O., on stilpnomelane, 264
Hydrargillite (gibbsite), 488
Hydrobiotite, 809
Hydrocarbonic solutions, 209
Hydrophilic series of metals, 152
Hydrosaline solutions, 207
Hydrosilicate solution, 209
Hydrothermal, definition, 202, 203
Hypogene ore deposits, The origin of the silica of the bedrock (Schmitt), 877
Idaho, The occurrence of cobalt and nickel in the Silver Summit mine, Coeur d'Alene district (Fryklund and Hutchinson), 753
Idria mercury deposit, Yugoslavia, 479
Igneous rocks, aphanites for lightweight aggregate (communication), 435
bloating tests, 435
Lac La Ronge district, Saskatchewan, 617
mercury content, 181
Mindamar mining district, Nova Scotia, 392
Preissac-Lacorne lithium district, Que., 511
textbook (review), 337
Illinois, Explosion pipe in test well on Hicks Dome, Hardin County (Brown, Emery, and Meyer), 891
coal, thermal curves, 301, 305
lead-zinc district, structure (abstract), 120
Illite, 192
Ilmenite, 404, 641, 822
Ilmenite deposit of Abu Ghalqa, Egypt (Amin), 77
Imlay, R. W., on a seaway, 54
Inclusion data, Composition of vein-forming fluids from (Smith), 205
Inclusions, liquid inclusions, 331, 728, 730
leakage or filling (discussion), 786
quartz vein, Lamaque, Que., 530
sulphides, 596
Indium, melting point and occurrence, 562
Indonesia, mountain building (review), 664
Ingerson, E., *Nature of the ore-forming fluids at various stages—A suggested approach*, 727–733
on isotopes, 541
Ingerson, E., with Richter, D. H., discussion by, 786
Ingham, W. N., and Keevil, N. B., on radioactivity, 720
Intergrowths, chalcopyrite-bornite, 595
exsolution intergrowths, ilmenite and hematite, Egypt, 83, 86
Intrusive effects of dikes in sulfide ores, 405
Intrusives, determination of ore occurrence possibilities, 731
Inversion temperatures of Cu_2S and CuS, 735
Ionium, 899
Iron, bacterial formation, 538
Baja Calif. deposits, Mexico, 67
Brazil, Congonhas district (discussion), 659
France, Lorraine basin (review), 441
iron formation, sedimentary facies (discussion), 905
magnetite-hematite deposits, Calif.—Baja Calif., 61

Iron—*Continued*
Michigan, origin of soft ores (discussion), 439
Minnesota, Soudan deposit, replacement and alteration (abstract), 124
Utah, Granite Mtn. area, map (review), 795
Iron Springs deposit, origin, 731
Yugoslavia, 454, 484
Iron-formation, Sedimentary facies of (James), 235
Irving, R. D., on copper, 677
Irving, R. D., and Van Hise, C. R., on iron formation, 253
on soapstone, 440
Isachsen, Y. W., abstract by, 804
Isotopes, nonradiogenic isotopes (discussion), 541
Itabirite, 240

Jackson, G. C. A., on chalcopyrite, 595
Jacobs, E. C., on sillimanite, 5
Jacobs, E. C., and Doll, C. G., on copper, 2
Jacobsite, 68
Jahns, R. H., on mineralization, 777
review of bulletin by, 335
James, H. L., *Sedimentary facies of iron-formation*, 235–293; discussions, 439, 905
on iron, 237
James, H. L., and Dutton, C. E., on slate, 248
James, H. L., and Wier, K. L., on black slate, 248
James, H. L., Clark, L. D., and Smith, L. E., on pyritic slate, 248
Jamison, J. K., on native silver, 696
Janjevo lead-zinc deposit, Yugoslavia, 473
Japan, coal, differential thermal analysis, 295
Jarrard, L. D., with Thurlow, E. E., abstract by, 125
Jasperoid, 201, 203
Jaspilite, 258
Jenkner, A., on coke, 842
Jennings, E. P., on gabbro, 131
Jenny, H., *et al.*, on pH measurement, 192
Jensen, M. L., discussion of paper by, 541
Jersey lead-zinc deposit, Salmo, B. C. (Whishaw), 521
Jicha, H. L., Jr., *Paragenesis of the ores of the Palomas (Hermosa) district, southwestern New Mexico*, 759–778
on ore bodies, 468
Johnston, W. D., Jr., on intrusives, 59
Johnstone, S. J., review of book by, 913
Joints, Cobalt district, Ont., 379
copper deposits, White Pine, Mich., 708
porphyry copper deposits, western U.S. (abstract), 122
Preissac-Lacorne batholith, Que., 513
Roan Antelope copper belt, Northern Rhodesia, 583, 585
Joints—*Continued*
Upper Miss. Valley zinc-lead district (abstract), 120
Jolliffe, A. W., on Yellowknife-Beaulieu district, N.W.T., 504
Jolliffe, F. J., on greenalite, 264
Jones, F. A., on miargyrite, 771
Jost, W., on diffusion, 741
Jugoslavia and the development of its mining industry, The ore deposits of (Schumacher), 451
Jurassic, paleogeography, Baja Calif., Mexico, 51
Jurassic sediments of the Colorado Plateau, Widespread occurrence and character of uraninite in the Triassic and (Rosenzweig, Gruner, and Gardiner), 351
Just, E., discussion by, 906

Kämmererite, 484
Kaolin, decomposition by diatoms, 538
Kaolinite, 130, 135, 440, 773, 776
Karsts, Yugoslavia, bauxite deposits, 487
Katz, J. J., and Rabinowitch, E., on uranium, 169, 355, 653
Katzer, F., on iron ore, 484
on ore deposits, Yugoslavia, 455
Keith, A., on talc, 775
Kelley, V. C., on chert, 274
Kemp, J. F., on hornstone, 201
Kennedy, G. C., on inclusions, 206, 786
Kerr, P. F., on tungsten, 60, 637
Kerr, P. F., and Kulp, J. L., on uranium, 754
Kerr, P. F., and Robinson, R. F., on Silver Belt, Idaho, 754
Kerr, P. F., *et al.*, on alteration, 146
Kidd, D. F., and Haycock, M. H., on uraninite, 154
Kidwell, A. L., on diatremes, 896
King, C., on granite, 221
King, H. F., and O'Driscoll, E. S., discussion of paper by, 783
King, H. F., and Thomson, B. P., discussion of paper by, 783
King, P. B., on ultramafic bodies, 211
King, R. E., on volcanics, 54
King, R. U., on uraninite, 131
King, R. U., with Vanderwilt, J. W., abstract by, 125
Kinkel, A. R., Jr., abstract by, 120
Kirk, M. V., and MacIntyre, J. R., on Alisitos formation, Mexico, 48
Kitazaki, U., and Yagishita, H., on coal, 295
Klaprotholite, 750
Kleinite, 178
Knife blade manganese ore, Ariz., 89
Knight, C. W., on Cobalt district, Ont., 378
Knopf, A., on a time scale, 793
on ankeritization, 879
Knox, J., on mercury, 188

Kober, L., on serpentine, 482
Koehler, G. F., Hostetler, P. B., and Holland, H. D., *Geochemical prospecting at Cobalt, Ontario*, 378–388
Kolthoff, I. M., on solutions, 194
Kopaonik lead-zinc deposit, Yugoslavia, 465
Kossmat, F., on ore deposits, Jugoslavia, 455
Krauskopf, K. B., on gold, 429
on mercury, 176
Krotov, B. P., on magnetite, 258
Krumbein, W. C., and Garrels, R. M., on sediments, 240
Krynine, P. D., on tourmaline, 604
Kühlwein, F. L., on coke, 842
Kühlwein, F. L., and Abramski, C., on coal, 842
Kulp, J. L., and Brobst, D. A., *Notes on the dunite and the geochemistry of vermiculite at the Day Book dunite deposit, Yancey County, North Carolina*, 211-220
Kulp, J. L., Bate, G. L., and Broecker, W. S., on age determinations, 793
Kulp, J. L., Kent, P., and Kerr, P. F., on carbonate minerals, 255
Kushida, T., on cuprous sulphide, 747

Lac La Ronge district, northern Saskatchewan, Radioactive, pronouncedly differentiated pegmatite sill (Mawdsley), 616
Lacroix, A., on alkalies, 231
on lherzolite, 731
Lahiri, K. C., with Hacquebard, P. A., *Petrographic examination of washed, screened and crushed samples of coal from the Sydney and St. Rose coalfields, Nova Scotia*, 837
Lake Superior region, iron formation, sedimentary facies, 235
Lakes, Minnesota (review), 795
Lakin, H. W., Almond, H., and Ward, F. W., on tests for cobalt, 383
Lamaque No. 6 vein, Direction of flow of late stage solutions in the (Smith), 530
Lamey, C. A., on limestone, 61
Land bridges (review), 106
Landergren, S., on iron ores, 244
Land-surface subsidence and its relation to the withdrawal of ground water in the Houston-Galveston region, Texas (Winslow and Doyel), 413
Lane, A. C., and Seaman, A. E., on Nonesuch shale, Mich., 680
Lang, A. H., on Coast Range batholith, B. C., 61
on uranium, 563
Lang, J. W., and Winslow, A. G., on Houston-Galveston region, Texas, 415
Langford, G. B., review of book by, 547
Larsen, E. S., Jr., on Baja Calif. batholith, Mexico, 47
on corundum, 218
on magmas, 732
Larsen, E. S., Jr., and Berman, H., on olivine, 217
Lasky, S. G., on Central district New Mexico, 869
Laterite, French Guinea, Conakry iron deposit (discussion), 905
nickel-cobalt ore, Cuba (abstract), 117
Northern Ireland, Antrim (review), 108
Rum Jungle area, Northern Territory, 832
Latimer, W. M., and Hildebrand, J. H., on uranyl sulphate, 653
Latsky, R., on bornite, 596
Lawson, A. C., on Great Valley, Calif., 58
Lazarevic, M., on Bor district, Yugoslavia, 473
Le Chatelier principle, 193
Leaching, silver from gold alloy, 429
Lead, melting point and zoning, 557
New South Wales, Broken Hill deposit (discussion), 783
Sierra Nevada batholith, Calif., 58
transportation and deposition, 728
Upper Miss. Valley structure (abstract), 120
Washington, Metaline district (abstract), 121
Yugoslavia, 454, 460
Lead-copper deposits at the Mindamar mine, Nova Scotia, Paragenesis of the zinc (Watson), 389
Lead-zinc deposit, Salmo, B. C., The Jersey (Whishaw), 521
LeBourdais, D. M., review of book by, 442
Leighton, F. B., abstract by, 809
Leith, C. K., on greenalite, 263
on hematite rock, 259
Leith, C. K., and Mead, W. J., on magnetite, 101
Leopard (chromite) ore, 482
Lepidocrocite, 773
Lepidolite, 504, 508
South West Africa, pegmatite deposits (abstract), 117
Lesure, F. G., books received, 109, 227, 340, 444, 548, 666
review by, 546
Levin, S. B., Nye, W. F., and Kedesdy, H., abstract by, 807
Leze lead-zinc deposit, Yugoslavia, 470
Lievrite, 463
Life, origin, migration, and formation of sediments (review), 103
Lignite, A method for the petrographic analysis of commercially delivered (Traverse), 92
uranium extraction, 654
Yugoslavia, 454
Lime, loss during alteration, Gaspe, Que., 519

Limonite, 484, 772
Lind, S. C., on methane, 537
Lindgren, W., on gel metasomatism, 162
on metamorphism, 200
on Roan Antelope ores, Northern Rhodesia, 609
on schists, 50
on silica, 880
on solubility, 556
Lindgren, W., Graton, L. C., and Gordon, C. H., on enrichment, 775
Lithium deposits in Canada, Pegmatitic (Rowe), 501
Little, H. W., on Salmo area, B. C., 628
Little, R., photos by, 10, 14
Ljubija iron ore district, Yugoslavia, 484
Ljuboten chromite district, Yugoslavia, 482
Lodochnikov, V. N., on minerals, 732
Loewinson-Lessing, F. J., review of translation of a book by, 913
Lojane chromite district, Yugoslavia, 483
Love, J. D., on uranium, 652
Lovering, T. S., on alteration, 754
on Caribou intrusives, Colo., 131
on ores, 867
on silica, 883
Lovering, T. S., and Goddard, E. N., on Front Range mineral belt, Colo., 866
on intrusives, 131
Luminescence of certain intrusive rocks and hydrothermal ore deposits, The marginal (McDougall), 717
Lutjen, G. P., and Kearney, J. H., on copper, 3

McDougall, D. J., *The marginal luminescence of certain intrusive rocks and hydrothermal ore deposits*, 717–726
on fluorescence, 719
MacGregor, A. M., on atmosphere, 245
Mackay, R. A., on gold, 429
on ions, 152
McKelvey, V. E., and Nelson, J. M., on uranium, 652
Mackin, J. H., on iron, 731
review of map by, 795
McKinstry, H. E., on terms, 198
McKinstry, H. E., and Mikkola, A. K., *The Elizabeth copper mine, Vermont*, 1–30
Magmas, ore-forming fluids, 727
Magmatization, ore deposits and blister heat (abstract), 810
Magnesite, 395
calcination (abstract), 809
Yugoslavia, 454, 489
Magnetite, 67, 236, 247, 257, 261, 270, 273, 285, 292, 441, 622, 641, 731
origin (communication), 101
Magnets for mineral separation, 650
Majdan Pek copper deposit, Yugoslavia, 476
Malachite, 772
Man (review), 107
Manganese, activator of carbonate minerals, 718, 721
bacterial formation, 538
Baja Calif., Mexico, 44, 66, 68, 72
gold enrichment by manganese dioxide, 429
Yugoslavia, 454, 486
Manganese deposits of the Mogollon Rim, Coconino County, Arizona (Silver), 88
Manganese dioxide for dry cells (abstract), 807
Manitoba, Birch Lake, schist, 724
lithium pegmatite deposits, 507
Mann, V. I., discussion by, 439
Mapping, North Carolina, gold pan technique, 643
Rum Jungle area, Northern Territory, 833
Mapping from aerial photos (communication), 780
Maps, Agaunico mine area, Cobalt, Ont., 380
Australia, Radium Hill uranium district, 816
British Columbia, Salmo area, 521
Canada, lithium pegmatite deposits, 502
Egypt, Hafafit area, 318
iron formations, Lake Superior region, 238
Jahala or Lee Lake, Saskatchewan, 618
Montana, Crystal graphite mine, 32
New Mexico, Sierra County, 760
paleogeographic maps, Jurassic, Baja Calif., Mexico, 51
piezometric map, Houston-Galveston region, Texas, 417
Salmo district, Brit. Columbia, 626
Stirling area, Nova Scotia, 390
uplifts and basin-and-range faults, western North America, 62
uraninite occurrences, Colo. Plateau, 352
uranium occurrences in Australia, 827
Utah, Granite Mtn. area (review), 795
Vermont, copper belt, 3
White Pine area, Mich., 678
Marble, Dillon area, Mont., 37
Martite, 247
Mason, B., on metals, 864
Mawdsley, J. B., *Radioactive, pronouncedly differentiated pegmatite sill, Lac La Ronge district, northern Saskatchewan*, 616–624
on diabase, 408
Mawson, D., on davidite, 822
on Radium Hill mine, South Australia, 816
Mead, W. J., on alteration, 440
Meinzer, O. E., on aquifers, 418

Meinzer, O. E., and Wenzel, L. K., on aquifers, 790
on fine-grained materials, 418
Melcher, A. F., on paraffin coatings, 436
Mellor, E. T., on gravel, 539
Melnikowite, 258
Melting point and ore deposition, Metallic (Sullivan), 555
Mempel, G., on Bor district, Yugoslavia, 473
Mercury, California, Sulphur Bank deposit (abstract), 807
system HgS—Na_2S—H_2O (abstract), 807
Yugoslavia, 479
Mertie, J. B., Jr., *The gold pan: A neglected geological tool*, 639–651
on monazite, 644
Merwin, H. E., and Lombard, R. H., on copper, 737
Mesogene, 202, 203
Metacinnabar, 807
Metallic melting point and ore deposition (Sullivan), 555
Metallization, 202
Yugoslavia, 456
Metallogenetic provinces, Pacific Coast gold-quartz belt, 57
Yugoslavia, 457, 458
Metals, occurrence in rocks, 864
Metamorphism, Broken Hill ore deposit, New South Wales (discussion), 784
contact metamorphism, silica additions and losses, 882
Day Book dunite, N. C., 213
definition, 200, 203
Dillon area, Mont., 37
Guadalupe mine, Mexico, 495
iron formation (discussion), 439
Lake Superior region, 238
ottrelite schists, 314
peridotite contact metamorphism, 732
Salmo district, B. C., 524
siltstone, Mindamar area, Nova Scotia, 393, 394
textbook (review), 337
Vermont copper district, 5
Metasomatism, 200, 203
Metastibnite, 740
Metatorbernite, 368
Meteorite, composition, 888
Methane, Witwatersrand and Boliden mines, 537
Method for the petrographic analysis of commercially delivered lignite (Traverse), 92
Mexico, Geology and ore deposits of Baja California (Wisser), 44
Ore controls at the Guadalupe mine, Nuevo Leon (Whiting), 493
Meyer, P. A., Jr., with Brown, J. S., and Emery, J. A., *Explosion pipe in test well on Hicks Dome, Hardin County, Illinois*, 891
Mežica (Miess) lead-zinc deposit, Yugoslavia, 468
Michigan, The White Pine copper deposit, Ontonagon County (White and Wright), 675
copper, arsenic and native copper (communication), 908
iron, origin of soft ores (discussion), 439
iron formations, sedimentary facies, 235
Micrinite, 850
Microbiology, petroleum (review), 912
Microcline, 508, 723
Microscopy, polarization microscope, optics (reviews), 224, 226
Miholić, S., *Genesis of the Witwatersrand gold-uranium deposits*, 537–540
on water, 538
Mikkola, A. K., with McKinstry, H. E., *The Elizabeth copper mine, Vermont*, 1
Miles, K. R., on iron formation, 257
Miller, G. J., Parkins, A. E., and Hudgins, B., review of book by, 665
Miller, R. E., review by, 544
Miller, W. G., on Cobalt district, Ont., 378
Mills, H. F., abstract by, 121
Mills, J. W., *Vertical zoning at the O'Brien gold mine, Kewagama, Quebec*, 423–430
on O'Brien mine, Que., 423
Milner, H. B., on apatite, 604
Mimetite, 772
Mindamar mine, Nova Scotia, Paragenesis of the zinc-lead-copper deposits at the (Watson), 389
Mine, South Australia, The geology of the Radium Hill uranium (Parkin and Glasson), 815
Mineral deposit, defined, 201, 203
Mineral deposits and rocks (review), 545
Mineral industry, Canada (review), 547
consumption requirements and exploration data (editorial), 432
tin (review), 226
Yugoslavia, 454
Mineral procurement, Human relationships in future (Davidson), 345
Mineral resources (review), 339
exploration data needed (editorial), 433
lithium pegmatites, Canada, 514
Mineralization, Climax molybdenite deposit, Colo. (abstract), 125
copper, Arizona, Copper Cities deposit, 362, 369
Globe-Miami district (abstract), 122
Silver Bell area (abstract), 123

Mineralization—*Continued*
Roan Antelope deposit, Northern Rhodesia, 580, 607, 609
White Pine district, Mich., 708
copper-zinc California, Shasta district (abstract), 120
defined, 201, 203
fluids, composition, 884
gold, Lamaque mine, Que., 536
Guadalupe mine, Mexico, 493, 496
Hicks Dome, Illinois, 897
iron, Granite Mtn. area, Utah (review), 796
lead-zinc, Washington, Metaline district (abstract), 121
Little Cottonwood stock, Utah (communication), 222
mercury, Terlingua, Texas, 175
Nevadan—Baja Calif. orogenies, 44, 57
Palomas mining district, New Mexico, 759, 776
Radium Hill mine, South Australia, 821, 822
tungsten, Salmo district, B. C., 625
Yugoslavia, 456
zinc, Tennessee, Friends Station—New Market area (abstract), 121
Mineralization in the Goudreau area of Algoma, Ontario, Pyritic (Douglas), 310
Mineralogy, carbonate mineralogy of carbonate rocks (abstract), 809
Climax molybdenite deposit, Colo. (abstract), 125
determinative tables (review), 337
germanite and reniérite, Tsumeb, South West Africa (abstract), 808
iron formations, 239, 249
lithium pegmatites, Canada, 503
metasomes in wall-rock alteration, 882
ores, cobalt-nickel, Cobalt, Ont., 379
Copper Cities copper deposit, Ariz., 367
El Triunfo-San Antonio district, Mexico, 71
Jersey lead-zinc deposit, B. C., 526
Mindamar mine, Nova Scotia, 389, 390
Palomas district, N. Mexico, 759, 765
Roan Antelope copper deposit, Northern Rhodesia, 591
Trepča lead-zinc deposit, Yugoslavia, 463
uraninite, Colo. Plateau, 356
pegmatites, Arizona, White Picacho district (review), 336
Perron mine, Que., 723
Radium Hill uranium mine, South Australia, 815
salt and cap rock of salt domes, Gulf Coast (abstract), 805
Silver Summit tetrahedrite veins, Idaho, 755
textbook (review), 225
Mineralogy of a uraninite deposit at Caribou, Colorado (Wright), 129
Minerals, alteration minerals, Caribou, Colo., 135
atomic energy minerals (review), 912
chemical industry needs (review), 913
determinative tables (review), 337
field guide (review), 225
metasomes in wall-rock alteration, 882
Minnesota (review), 795
polarity rule, 732
Mining, Canadian industry (review), 547
Iron Mtn. district, B. C., 626
phosphate rock, Angaur Island (abstract), 810
Roan Antelope copper deposit, Northern Rhodesia, 583
Mining geology as defined and used, Certain terms of (Schmitt), 198
Mining industry, The ore deposits of Jugoslavia and the development of its (Schumacher), 451
Minnesota, iron, Soudan deposit, replacement and alteration (abstract), 124
iron formations, sedimentary facies, 235
rocks and waters (review), 795
Minnesotaite, 236, 249, 254, 262, 265, 285, 293, 439
Missouri, diatremes, southeast Mo., 896
lead deposits, genesis, 571
Mitcham, T. W., on Silver Belt, Idaho, 754
Moehlman, R. S., on gold, 68
Mogollon Rim, Coconino County, Arizona, Manganese deposits of the (Silver), 88
Molybdenite, 27, 125, 222, 362, 367, 368, 635
Yugoslavia, 454, 480
Molybdenum, occurrence, 563
Monazite, 509, 616, 622, 642, 644, 648, 650
exploration techniques (abstract), 119
Montana, Occurrence and origin of the graphite deposits near Dillon, (Ford), 31
uranium deposits, Boulder batholith (abstracts), 125, 803
Montebrasite, 501, 504
Montmorillonite, 130, 135
Montroseite, 804
Montroydite, 179
Moore, E. S., on pyrite, 248, 316
Moore, E. S., and Armstrong, H. S., on pyrite-siderite, 248
Moore, E. S., and Maynard, J. E., on iron, 242
Moore, G. W., *Extraction of uranium from aqueous solution by coal and some other materials,* 652–658
Moore, R., review of book by, 107
Moorehouse, W. W., on sulphides, 865
Mosesite, 178
Mott, N. F., and Gurney, R. W., on luminescence, 719
Mott, R. A., and Wheeler, R. V., on plasticity, 296

Mountain, E. D., on sericite, 602
Mountain building (review), 664
Muds, black muds, uranium content, 538
Muir, A., review of book edited by, 666
Murdock, T. G., and Hunter, C. E., on vermiculite, 211
Murray-Hughes, R., on Janjevo mining district, Yugoslavia, 473
Muscovite, 222
  Arizona, pegmatite belt (review), 336
Mylonitization, sulphides, Nova Scotia, 409

Nanz, R. H., Jr., on iron, 245
Native copper, 695, 808
Native copper and arsenic (communication), 908
Native silver, 161, 696, 764, 771
Naumannite, 748
Nelson, E. W., on Boleo copper deposit, Baja Calif., Mexico, 73
Nevada, Ely district, rock alteration, 879
  Steamboat springs, alteration (abstract), 806
  vermiculite, origin, Southern Virgin Mtns. (abstract), 809
New England, pegmatite investigations (review), 792
New Guinea, gold, fineness changes, 426, 430
New Mexico, Paragenesis of the ores of the Palomas (Hermosa) district, southwestern (Jicha), 759
  rocks, alteration, 878
  structure, Santa Rita intrusive (abstract), 122
  uraninite, Grants deposit, 351
New South Wales, copper, Cobar deposit, 561
New Zealand, Wairakei hot springs, alteration (abstract), 806
Newhouse, W. H., on banding, 409
  on brines, 885
  on inclusions, 181
  on ore, 184
Newhouse, W. H., and Flaherty, G. F., on layering, 409
Nickel, lateritic ores, Cuba (abstract), 117
  melting point and occurrence, Sudbury, Ont., 572
  Ontario, Sudbury basin (review), 442
Nickel in the Silver Summit mine, Coeur d'Alene district, Idaho, The occurrence of cobalt and (Fryklund and Hutchinson), 753
Niggli, P., on tourmaline, 605
  review of translated book by, 545
Nikitin, V., and Duhovnik, J., on Trepča area, Yugoslavia, 462
Nininger, R. D., review of book by, 912
Nishio, K., on copper, 677
Nitschia palea and kaolin formation, 538
Noakes, L. C., on Katherine-Darwin region, Northern Territory, 828
Noble, J. A., on plugs, 63
Nolan, T. B., on exploration, 328
Norman, G. W. H., on igneous rocks, 511
North America, geography (review), 665
North Carolina, Notes on the dunite and the geochemistry of vermiculite at the Day Book dunite deposit, Yancey County (Kulp and Brobst), 211
  pavements, Mt. Airy, 643
North Dakota, lignite, petrography, 93
North West Territories, Yellowknife-Beaulieu district, 504
Northern Ireland, bauxites and laterites (review), 108
Northern Rhodesia, The origin of the Roan Antelope copper deposit of (Davis), 575
  cobalt-copper deposits, genesis, 569
  copper-cobalt-uranium belt (discussion), 904
Northern Territory, Australia, Uranium exploration by the Bureau of Mineral Resources, Geology and Geophysics in the Rum Jungle province (Fisher and Sullivan), 826
Norway, black mud deposition in fjords, 539
  carbonates, Fen district, 316
Nova Scotia, Paragenesis of the zinc-lead-copper deposits at the Mindamar mine (Watson), 389
  Petrographic examination of washed, screened and crushed samples of coal from the Sydney and St. Rose coalfields (Hacquebard and Lahiri), 837
Novo Brdo lead-zinc deposit, Yugoslavia, 466
Nowicki, A. L., on control points, 780
Nuevo Leon, Mexico, Ore controls at the Guadalupe mine (Whiting), 493

O'Brien gold mine, Kewagama, Quebec, Vertical zoning at the (Mills), 423
Occurrence and character of uraninite in the Triassic and Jurassic sediments of the Colorado Plateau, Widespread (Rosenzweig, Gruner, and Gardiner), 351
Occurrence and origin of the graphite deposits near Dillon, Montana (Ford), 31
Occurrence of cobalt and nickel in the Silver Summit mine, Coeur d'Alene district, Idaho (Fryklund and Hutchinson), 753
Oceania, Angaur Islands, salt-water encroachment (abstract), 810
Oceans, chemical environment, 240
Oder, C. R. L., abstract by, 121
Ohio, magnetite in Maxville limestone (communication), 101

Oil shale, uranium extraction, 654
Olivine, 217
Ontario, Geochemical prospecting at Cobalt (Koehler, Hostetler, and Holland), 378
Pyritic mineralization in the Goudreau area of Algoma (Douglas), 310
Dome stock, radioactivity distribution, Red Lake, 719
pyrite-siderite, Michipicoten district, 248
Sudbury basin (review), 442
Sudbury nickel-copper deposits, genesis, 572
Ontonagon County, Michigan, The White Pine copper deposit (White and Wright), 675
Oolites, 255, 259, 272, 275, 285, 292
Minette iron ores, Lorraine basin, France (review), 441
Ooliths and granules, 255
Oosterbosch, R., and Schuiling, H., on ores, 569
Opal, 807
cinnabar in opal, 195
Opaque matter in coal, 855
Ordonez, G., and Baltosser, W. W., abstract by, 122
Ore at Gaspe copper mines, Alteration associated with (Bell and Scott), 516
Ore bodies, Salmo, British Columbia, The Emerald, Feeney and Dodger tungsten (Ball), 625
copper, Copper Cities deposit, Ariz., 362, 376
copper-lead-zinc, Mindamar, Nova Scotia, 389, 390
copper-zinc, California, Shasta district (abstract), 120
El Triunfo-San Antonio district, Baja Calif., Mexico, 70
lead-zinc pipes, Mežica, Yugoslavia, 468
sulphides, Elizabeth copper mine, Vt., 1, 18
tungsten, Colorado, Cold Spring mine (abstract), 124
uranium, Radium Hill mine, South Australia, 823
zinc, Tennessee, Friends Station—New Market area (abstract), 121
Ore bodies and intrusives, 872, 875
Ore controls at the Guadalupe mine, Nuevo Leon, Mexico (Whiting), 493
Ore deposition, Metallic melting point and (Sullivan), 555
Ore deposits, The marginal luminescence of certain intrusive rocks and hydrothermal (McDougall), 717
The origin of the silica of the bedrock hypogene (Schmitt), 877
anticlinal ore accumulation, 183
Arizona, Globe-Miami district (abstract), 122
Ore deposits—Continued
blister hypothesis and origin of ore deposits (abstract), 810
iron, France, Lorraine basin (review), 441
manganese, Mogollon Rim, Ariz., 88
native copper deposits (abstract), 808
Ontario, Sudbury basin (review), 442
uraninite, Colo. Plateau, 351
uranium, origin (abstract), 118
Rum Jungle area, Northern Territory, 831
uranium-vanadium, Colo. Plateau, estimation of reserves (abstract), 805
Ore deposits of Baja California, Mexico, Geology and (Wisser), 44
Ore deposits of Jugoslavia and the development of its mining industry (Schumacher), 451
Ore deposits of the southwest, A suggested source of the thiophile elements of the Tertiary (Hillebrand), 863
Ore shoots, Elizabeth copper mine, Vt., 4
Guadalupe mine, Mexico, 493, 498
lead-zinc, Leze district, Yugoslavia, 470
Silver Summit mine, Idaho, 755
Ore-forming fluids at various stages—A suggested approach, Nature of the (Ingerson), 727
Ores, cobalt-nickel, Cobalt, Ont., 379
ilmenite, Abu Ghalqa, Egypt, 77
intrusive effects of dikes, 405
lateritic nickel-cobalt, Cuba (abstract), 117
lead-zinc, Jersey deposit, B. C., 521, 526
uranium, Radium Hill mine, South Australia, 815, 822
Rum Jungle area, Northern Territory, 826, 831
zinc-lead-copper, Mindamar mine, Nova Scotia, 389, 405, 411
Ores in the Terlingua district, Texas, Transportation and deposition of quicksilver (Thompson), 175
Ores of the Palomas (Hermosa) district, southwestern New Mexico, Paragenesis of the (Jicha), 759
Organisms and concentration of uranium, 538
Origin, amphibolite, Elizabeth mine, Vt., 12
anthophyllite and vermiculite, Hafafit, Egypt, 326
blister hypothesis and ore deposits (abstract), 810
Broken Hill ore deposit, New South Wales (discussion), 784
charnockites (review), 338
coal fields, Great Britain (review), 665
copper, Boleo deposit, Mexico, 44, 73
porphyry deposits, western U. S. (abstract), 122
White Pine, Mich., 676, 712
corundum, 218

Origin—*Continued*
gold-silver ores El Triunfo-San Antonio, Mexico, 71
iron, Brazil, Congonhas district (discussion), 659
France, Lorraine basin (review), 441
Granite Mtn. area, Utah (review), 796
Iron Springs, Utah, 731
Michigan, soft ores (discussion), 439
Vareš district, Yugoslavia, 486
laterites and bauxites, Northern Ireland (review), 108
lead-zinc ore, Jersey deposit, B. C., 528
magnetite (communication), 101
native copper deposits (abstract), 808
ores, Palomas district, New Mexico, 776
pegmatites, Arizona, White Picacho district (review), 336
pyritic mineralization, Goudreau, Ont., 310, 316
sulphur in salt domes (abstract), 806
tungsten, Salmo district, B. C., 625, 637
uraninite, Lac La Ronge district, Saskatchewan, 623
uranium deposits (abstract), 118
vermiculite, Nevada, Southern Virgin Mtns. (abstract), 809
Origin of the graphite deposits near Dillon, Montana, Occurrence and (Ford), 31
Origin of the Roan Antelope copper deposit of Northern Rhodesia (Davis), 575
Origin of the silica of the bedrock hypogene ore deposits (Schmitt), 877
Orogenies (review), 664
Baja Calif.—Nevadan orogenies, 44, 56
metamorphism, and magmatism, 871
Orthoclase, 137
Ottrelite, 314
Oxidation, Bor copper deposit, Yugoslavia, 474
hydrothermal oxidation of iron ore, Mich. (discussion), 440
ores, Palomas district, New Mexico, 765
Roan Antelope copper deposit, Northern Rhodesia, 598
Oxyphile ores and melting point, 561

Pabst, A., on quartz, 400
Pacific Northwest (review), 794
Paige, S., on alteration, 880
Palache, C., Berman, H., and Frondel, C., on carbonates, 395
on uraninite, 166
Paleogeography, Jurassic, Baja Calif., Mexico, 51
Nonesuch shale, Mich., 685
Palingenesis, concentration of crustal material, 864
Palmqvist, S., on iron ores, 244
Palomas (Hermosa) district, southwestern New Mexico, Paragenesis of the ores of the (Jicha), 759
Pan: A neglected geological tool, The gold (Mertie), 639
Paragenesis, alteration types, Caribou, Colo., 130, 140
germanite and reniérite, South West Africa (abstract), 808
gold-uranium, Witwatersrand, Transvaal, 539
ores, Alamo gold deposit, Baja Calif., Mexico, 69
copper-uranium, Colo. Plateau, 351, 356
Elizabeth copper mine, Vt., 21
Mežica, Yugoslavia, 468
Mindamar mine, Nova Scotia, 405, 411
Roan Antelope copper deposit, Northern Rhodesia, 601
uraninite, Colo., 156, 161, 168
vein minerals and quartz, 884
Paragenesis of the ores of the Palomas (Hermosa) district, southwestern New Mexico (Jicha), 759
Paragenesis of the zinc-lead-copper deposits at the Mindamar mine, Nova Scotia (Watson), 389
Pardee, J. T., and Larsen, E. S., on vermiculite, 326
Park, C. F., Jr., on cherty sediments, 277
Parker, J. M., on dunite, 213
Parker, R. L., review of translation by, 545
Parkin, L. W., and Glasson, K. R., *The geology of the Radium Hill uranium mine, South Australia,* 815–825
Parks, B. C., and O'Donnell, H. J., on lignite, 93
Pauling, L., review of book by, 107
Pavements, 643
Pavlović, S., on Bor district, Yugoslavia, 473
Pearls and gems (review), 663
Peat, uranium extraction, 654
water and temperature ranges, 307
Peele, R., and Church, J. A., on the gold pan, 645
Pegmatite sill, Lac La Ronge district, northern Saskatchewan, Radioactive, pronouncedly differentiated (Mawdsley), 616
Pegmatites, Arizona, White Picacho district (review), 335
Day Book dunite mass, N. C., 214, 216
exterior, interior, and marginal pegmatites, 507
graphite deposits, Mont., 34, 35, 37
hydrosilicate solution, 209
New England (review), 792
oxyphile elements, occurrence, 563
Radium Hill, South Australia, 818
South West Africa (abstract), 117
Pegmatitic lithium deposits in Canada (Rowe), 501
Penck, W., review of translated book by, 227

Pennebaker, E. N., abstract by, 122
Penninite, 136, 404
Pennsylvania, anthracites, thermal curves, 297
Peoples, J. W., review by, 792
Percival, F. G., discussion by, 905
on iron formation, 276
Petalite, 504
Peters, E. D., on copper, 2
Petersen, V. E., on lead-silver sulphide, 768
Peterson, N. P., *Copper Cities copper deposit, Globe-Miami district, Arizona,* 362–377
abstract by, 122
on silica, 880
Peterson, N. P., Gilbert, C. M., and Quick, G. L., on quartz monzonite, 363
Petković, K. V., on a geological map, Yugoslavia, 455
Petrographic analysis of commercially delivered lignite, A method for the (Traverse), 92
Petrographic examination of washed, screened and crushed samples of coal from the Sydney and St. Rose coalfields, Nova Scotia (Hacquebard and Lahiri), 837
Petroleum, microbiology (review), 912
sulphur production from anhydrite (abstract), 806
Texas, oil fields, land subsidence, 420
Petroleum in inclusions, 209
Petrology, charnockites (review), 338
historical survey (review), 913
polarization microscope, optics (reviews), 224, 226
saprolite, correlation with parent bed rock, 642
textbook (review), 337
Pettijohn, F. J., on graywacke, 245
on slate, 248
Phair, G., on uranium, 731
Philipsborn, H. v., review of book by, 337
Phillips, F. C., on anthophyllite, 326
Phlogopite, 12, 217
Phosphate, Anguar Island, mining and salt-water encroachment (abstract), 810
uranium extraction, 654
Photomicrographs—
coal, Nova Scotia, 854
ilmenite and gabbro, Egypt, 82
lignite, N. Dakota, 97
ores, Palomas district, New Mexico, 762, 770
Roan Antelope copper belt, Northern Rhodesia, 597
uraninite, Colo., 153
ores and rocks, Elizabeth copper mine, Vt., 9, 15
Photomicrographs—*Continued*
Mindamar mine, Nova Scotia, 396, 398
rocks, iron formations, 292
serpentine, Egypt, 324
uraninite, Colo. Plateau, 357
Physiography, land forms (reviews), 227, 794
Pichamuthu, C. S., review of book by, 338
Pipe in test well on Hicks Dome, Hardin County, Illinois, Explosion (Brown, Emery, and Meyer), 891
Pipes, 200, 203
breccia pipe, Little Cottonwood stock, Utah (communication), 222
Trepča ore deposit, Yugoslavia, 462, 468
Pitchblende, 125, 162, 539
Placers, gold, Witwatersrand, genesis, 537
Plagioclase, 23, 137
Plans—
anthophyllite-vermiculite deposit, Hafafit, Egypt, 323
Crystal graphite mine, Mont., 33
Guadalupe mine, Mexico, 497
Mindamar mine, Nova Scotia, 403
radioactive sill, Saskatchewan, 621
Radium Hill mine, South Australia, 820
Plants, replacement by copper and uranium, 351, 356
uranium accumulation (abstract), 802
Plaster of Paris for embedding of lignite, 96
Pneumatolytic, definition, 202, 204
Pollock, J. P., on mercury sulphide, 195
Polybasite, 755, 757, 770
Porcellanite, 201, 204
Posnjak, E., Allen, E. T., and Merwin, H. E., on copper, 734
Pough, F. H., review of field guide by, 225
Powellite, 635
Pratt, J. H., and Lewis, J. V., on chromite, 217
Pratt, W. E., discussion by, 790
Pratt, W. E., and Johnson, D. W., on subsidence, 420, 790
Preuss, E., on mercury, 182
Price, P., on ore bodies, 407
Pringsheim, P., on luminescence, 719
Procurement, Human relationships in mineral (Davidson), 345
Propylitization, 200, 371
Prospecting, atomic energy minerals (review), 912
economic data needed (editorial), 433
lateritic nickel-cobalt deposit, Cuba (abstract), 118
monazite (abstract), 119
ore occurrence possibilities of intrusives, 731
thermoluminescence of ore deposits, 725
uranium, Rum Jungle region, Northern Territory, 119, 826

Prospecting at Cobalt, Ontario, Geochemical (Koehler, Hostetler, and Holland), 378
Proustite, 161, 171
Pseudomorphs, chlorite after tremolite, 320
hematite after magnetite, 257
penninite after pyroxene, 405
pyrite after pyrrhotite, 463
sericite after biotite, 22
thucholite after uraninite and tourmaline, 539
uraninite after pyrite, 159
Pseudo-pipes, 200
Pyrargyrite, 770
Pyrite, 21, 27, 71, 120, 133, 153, 156, 159, 170, 222, 236, 243, 248, 268, 275, 284, 356, 357, 362, 367, 374, 397, 401, 405, 461, 463, 474, 476, 526, 537, 539, 588, 592, 607, 611, 635, 642, 695, 696, 714, 757, 762, 824, 832, 847, 898, 901
Yugoslavia, 454
Pyritic mineralization in the Goudreau area of Algoma, Ontario (Douglas), 310
Pyromorphite, 772
Pyrrhotite, 1, 11, 19, 461, 463, 526, 635

Quarries, Georgia and N. Carolina, 643
Quartz, 9, 21, 68, 71, 124, 137, 156, 158, 222, 331, 358, 360, 397, 400, 424, 461, 474, 504, 508, 619, 637, 641, 648, 728, 755, 757, 762, 766, 804, 832, 881, 889, 901
inclusions, leakage and filling (discussion), 786
Quebec, Lamaque No. 6 vein, 530
Quebec, Vertical zoning at the O'Brien gold mine, Kewagama (Mills), 423
Bourlamaque batholith, radioactivity distribution, 719, 721
copper, alteration at Gaspe mines, 516
gold, Lamaque veins, solution flow, 530
ore bodies and dikes, 407
Preissac-Lacorne lithium district, 511
Quicksilver ores in the Terlingua district, Texas, Transportation and deposition of (Thompson), 175
Quiring, H., on antimony, 479
Quitzow, H. W., on bauxite, 487

Rabbit, J., spectroscopic analysis by, 19
Rabrovo chromite district, Yugoslavia, 484
Radioactive, pronouncedly differentiated pegmatite sill, Lac La Ronge district, northern Saskatchewan (Mawdsley), 616
Radioactive front, 725
Radioactivity, breccia, Hicks Dome, Ill., 899
granites, Katherine-Darwin region, Northern Territory, 828
mineral and thermal waters, Yugoslavia, 538
rocks, 720
Radioactivity—*Continued*
scintillation spectrometer, gamma ray measurement (abstract), 802
Radium, South Australia, Radium Hill mine, 815
Radium Hill uranium mine, South Australia, The geology of the (Parkin and Glasson), 815
Rahlfs, P., on copper, 735
Ramberg, H., on chemical bonds, 565
on metamorphism, 866
Ramdohr, P., on galena, 768
Ramsay, R. H., on White Pine mine, Mich., 677
Rank in coal by differential thermal analysis, Investigation of (Glass), 294
Rankama, K., discussion by, 541
on *C. enigmaticum*, 538
on carbon, 541
Rankama, K., and Sahama, T. G., on metals, 864
on oxyphile and sulfophile elements, 557
Ransome, F. L., on Globe-Miami district, Ariz., 362
on silica, 880
Ransome, F. L., and Calkins, F. C., on Silver Belt, Idaho, 754
Rao, R., review of book by, 547
Rasor, C. A., on uraninite, 360
Rayner, E. O., on cobalt, 564, 570
Read, H. H., review of book by, 225
Realgar, 403, 478
Redox potential, 246, 274
Reed, R. D., on Mohavia, 52
Reiche, P., on sandstone, 88
Reid, I. L., with Schwartz, G. M., abstract by, 124
Reid, W. A., analyses by, 216
Reniérite, 563, 808
Replacement, alteration minerals, Caribou, Colo., 148
bornite by chalcocite, 750
carbonate replacement of rocks, Mindamar, Nova Scotia, 397
chalcopyrite by chalcocite, Ariz., 374
diadochic replacement, 718
germanite by reniérite, 808
gersdorffite by tetrahedrite, 756
hematite by magnetite and carbonate, 275
iron ore, Minnesota, Soudan deposit (abstract), 124
lead-zinc deposits, Yugoslavia, 463
limestone by chalcopyrite, 516
nodules by copper, White Pine district, Mich., 713
plants by uraninite and sulphides, 357
schist by sulphides, Vt., 25
Reviews—
Anleitung zu optischen Untersuchungen mit dem Polarisationsmikroskop (Berek *et al.*), Servos, 224
Bonanza Trail, ghost towns and mining camps of the West (Wolle), Ross, 442

Reviews—Continued
Charnockite problem (Pichamuthu), Bateman, 338
Coalfields of Great Britain (Trueman), Brombert, 665
Composition and origin of the Antrim laterites and bauxites (Eyles), 108
Conversation with the earth (Cloos and Garside), 224
Crystal data, a classification of substances by space groups and their identification from cell dimensions (Donnay, Nowacki, and Donnay), Winchell, 663
Edelsteine und Perlen (Schlossmacher), Servos, 663
Field guide to rocks and minerals (Pough), 225
General chemistry (Pauling), 107; (Rochow and Wilson), 794
Geochemistry (Goldschmidt), 666
Geographical essays (Davis), 914
Geography of North America (Miller, Parkins, and Hudgins), 665
Geology and iron ore deposits of the Granite Mountain area, Iron County, Utah (Mackin), 795
Gisements de fer du Bassin Lorrain (Caillère and Kraut), Dunham, 441
Histoire géologique de la biosphère. La vie et les sédiments dans les géographies successives (Termier and Termier), Fourmarier, 103
Historical survey of petrology (Loewinson-Lessing and Tomkeieff), 913
Leaders in American science, 443
Man, time and fossils (Moore), Brombert, 107
Manual of the polarizing microscope (Hallimond), Servos, 226
Materials survey—Tin, 108
Minerals for atomic energy (Nininger), 912
Minerals for the chemical and allied industries (Johnstone), 913
Minnesota's rocks and waters (Schwartz and Thiel), 795
Morphological analysis of land forms (Penck), 227
Mountain building (Van Bemmelen), 664
Out of the earth (Langford), 547
Pacific Northwest (Freeman and Martin), 794
Pegmatite deposits of the White Picacho district, Maricopa and Yavapai Counties, Arizona (Jahns), Stewart, 335
Pegmatite investigations, 1942-45, New England (Cameron, *et al.*) Peoples, 792
Petrography (Williams, Turner, and Gilbert), 337
Petroleum microbiology (Beerstecher), 912
Reviews—Continued
Physical chemistry of the silicates (Eitel), Lesure, 546
Principles of geomorphology (Thornbury), 794
Recollections of an Indian geologist (Rao), Bateman, 547
Rocks and mineral deposits (Niggli), 545
Rutley's elements of mineralogy (Read), Winchell, 225
Structural geology (Billings), 913
Sudbury Basin (LeBourdais), 442
Tafeln zum Bestimmen der Minerale nach äusseren Kennzeichen (v. Philipsborn), Winchell, 337
Tin, 1951-1953. Review of world tin industry, 226
World population and production (Woytinsky and Woytinsky), 339
Reviews, clerical and critical (discussion), 541
Rhode Island, anthracite, thermal curve, 296
Rhodesia, arkose and graywacke, 245
Rhyolite, 436
Richard, K., and Courtright, J. H., abtract by, 123
Richardson, P. W., on Mindamar mine, Nova Scotia, 391
Richter, D. H., and Abell, J. F., on a microscope heating stage, 787
Richter, D. H., and Ingerson, E., discussion by, 786
Ridland, G. C., abstract by, 123
on uranium, 130
Riley, C. M., communication by, 435
on bloating, 435
Rivers, Minnesota (review), 795
Wisconsin, uranium contents (abstract), 803
Roan Antelope copper deposit of Northern Rhodesia, The origin of the (Davis), 575
Robinson, R. F., on Silver Belt, Idaho, 754
Rochow, E. G., and Wilson, M. K., review of book by, 794
Rocks, aphanites for lightweight aggregate (communication), 435
carbonate rocks, carbonate mineralogy (abstract), 809
field guide (review), 225
metal content, 863
Minnesota (review), 795
petrography, textbook (review), 337
sampling with gold pan, 640
Rocks and hydrothermal ore deposits, The marginal luminescence of certain intrusive (McDougall), 717
Rocks and mineral deposits (review), 545
Rodden, C. J., analyses by, 150
Rodgers, J., on a time scale, 793
review of map and bulletin by, 544
Rogers, A. F., on colloform texture, 162

Rominger, C. L., on copper, 677
Rose, N. A., on Alta Loma sand, Texas, 415
Rosenzweig, A., Gruner, J. W., and Gardiner, L., *Widespread occurrence and character of uraninite in the Triassic and Jurassic sediments of the Colorado Plateau,* 351–361
Rosler, H., on magnetite, 101
Ross, C. P., on Terlingua district, Texas, 176
Ross, C. P., and Hendricks, S. B., on talc, 775
Ross, C. P., and Kerr, P. F., on kaolinite, 776
Ross, V., *The formation of intermediate sulfide phases in the solid state,* 734–752
  review by, 442
Rowe, R. B., *Pegmatitic lithium deposits in Canada,* 501–515
  on pegmatites, 501
Royce, S., on slate, 248
Rubey, W. W., on atmosphere, 245
  on sea water, 180
Rudnick lead-zinc deposit, Yugoslavia, 467
Rücker, A., on Srebrenica district, Yugoslavia, 469
Ruff, A. W., communication by, 779
Rum Jungle province, Northern Territory, Australia, Uranium exploration by the Bureau of Mineral Resources, Geology and Geophysics in the (Fisher and Sullivan), 826
Rust, G. W., on diatremes, 896
Rutile, 21, 651, 822
Rutley's mineralogy (review), 225
Rynearson, G. A., Pomerene, J. B., and Dorr, J. V. N., II, on an unconformity, 660

St. Rose coalfields, Nova Scotia, Petrographic examination of washed, screened and crushed samples of coal from the Sydney and (Hacquebard and Lahiri), 837
Sakamoto, T., on iron and silica, 274
Sales, R. H., and Meyer, C., on alteration, 140, 754
  on bornite, 750
  on sericite, 394
  on silica, 883
Salmo, British Columbia, Canada, The Emerald, Feeney, and Dodger tungsten ore bodies (Ball), 625
Salt, Gulf Coast, salt and cap rock of salt domes (abstract), 805
  Yugoslavia, 454
Salt domes, Gulf Coast salt and cap rock (abstract), 805
  sulphur, origin (abstract), 806
Salt-water encroachment, Angaur Island (abstract), 810
Samples, zircon-rutile mixtures for matching concentrates, 651
Samples of coal from the Sydney and St. Rose coalfields, Nova Scotia, Petrographic examination of washed, screened and crushed (Hacquebard and Lahiri), 837
Sampling, bedrock sampling with gold pan, 640
  coal for petrographic analysis, 843
  cobalt minerals, Cobalt, Ont., 379
  copper in sediments, Mich., 709
  inclusions in Vein No. 6, Lamaque mine, Que., 532
  lignite for petrographic analysis, N. Dak., 97
  uraninite vein, Caribou mine, Colo., 131
Sampson, E., on cherty sediments, 277
Sanders, B. H., on iron ore, 660
Sandstone, Coconino sandstone, Ariz., 88
  White Pine district, Mich., 685, 706
Santillán, M., and Barrera, T., on Alisitos formation, Mexico, 48
Sap, 641
Saprock, 641
Saprolite, 639, 641
Saprolitization, 641
Saskatchewan, Radioactive, pronouncedly differentiated pegmatite sill, Lac La Ronge district, northern (Mawdsley), 616
Saukov, A. A., on mercury, 182
Schalenblende texture, 164
Scheelite, 66, 625, 633, 723
  British Columbia, Salmo area, 529
  Utah, Little Cottonwood stock (communication), 221
Schenck, R., *et al.,* on sulphides, 737
Schlossmacher, K., review of book by, 663
Schmitt, H., *Certain terms of mining geology as defined and used,* 198–204
  The origin of the silica of the bedrock hypogene ore deposits, 877–890
  on ores, 873
  on propylitization, 200
  on silica, 882
Schneiderhöhn, H., on Majdan Pek copper district, Yugoslavia, 476
  on sphalerite, 410
Scholtz, D. L., on chalcopyrite, 596
Schouten, C., on intergrowth, 598
Schuchert, C., on Cretaceous, Baja Calif., Mexico, 55
Schürman Series, 556
Schumacher, F., *The ore deposits of Jugoslavia and the development of its mining industry,* 451–492
  on lead and zinc, 462
Schumacher, F., Stier, K., and Pfalz, R., on ore deposits, 455
Schwartz, G. M., on alteration, 146
  on chalcopyrite, 370, 596, 737
  on silica, 880

Schwartz, G. M., and Reid, I. L., abstract by, 124
Schwartz, G. M., and Thiel, G. A., review of book by, 795
Schwellnus, C. M., on vermiculite, 326
Science, American leaders (review), 443
Scientific Notes and News, 126, 232, 343, 448, 552, 671, 811, 919
Scintillation equipment and counter technique, 149
Scintillation spectrometer use (abstract), 802
Scintillometer surveys, Rum Jungle area, Northern Territory, 834
Sclar, C. B., and Geier, B., abstract by, 808
Scott, A., on colloform texture, 162
Scott, F. J., with Bell, A. M., *Alteration associated with ore at Gaspe copper mines*, 516
Sections—
anthophyllite-vermiculite deposit, Hafafit, Egypt, 320, 322
bauxite deposits, Herzegovina, Yugoslavia, 487
cobalt ore pile and geochemical anomaly, Cobalt, Ont., 385, 387
Copper Cities copper ore body, 373
earth's crust, sial and metallic segregations, 870
Elizabeth mine, Vt., 4, 6
Guadalupe mine, Mexico, 499
iron formation, depositional zones, 242, 278
Jersey lead-zinc deposit, B. C., 526
Lac La Ronge district, Saskatchewan, 621
manganese deposits, Mogollon Rim, Ariz., 89
Montgomery Co., Texas, 414
Nkana copper concession, Northern Rhodesia, 577
Radium Hill mine, South Australia, 819
Salmo area, Brit. Columbia, 630, 636
White Pine area, Mich., 686, 697
Sedimentary facies of iron formation (James), 235; discussion, 905
Sedimentary rocks, textbook (review), 337
Sedimentation (review), 104
iron formations, 235
Sediments, chemical elements, distribution, 565
copper-bearing "shale," Northern Rhodesia, 580, 602
Houston-Galveston region, Texas, 415
iron, Vareš deposit, Yugoslavia, 486
iron formations, 235, 905
magnetite, authigenic origin (communication), 101
manganese, Mogollon Rim, Ariz., 88
ore deposits and magmatization (abstract), 810
shales, uranium and carbon content, 538
uranium deposits, Monument Valley, Ariz. (abstract), 804
White Pine district, Mich., 676, 680, 696
Sediments of the Colorado Plateau, Widespread occurrence and character of uraninite in the Triassic and Jurassic (Rosenzweig, Gruner, and Gardiner), 351
Segregations of sial and metals, 868, 871
Selenium, occurrence in uraninite deposits, Colo. Plateau, 356
Selvig, W. A., *et al.*, on lignite, 95
Semifusain, 857
Sericite, 130, 136, 370, 394, 400, 440
Sericitization, 881
Serpentine, 481, 489
Hafafit area, Egypt, 320
Serpentinization, 214
Servos, K., books received, 796, 914
reviews by, 224, 226, 663
Seyler, C. A., on coalification, 307
Shales, New Albany shale, radioactivity, 900
Nonesuch shale, Mich., 680
ore shale, Roan Antelope district, Northern Rhodesia, 580, 602
uranium and carbon content, 538
Shand, S. J., on ore deposit theories, 877
on pneumatolysis, 204
Shapiro, L., analysis by, 271
Shatter index, 842
Shaw, D. M., on *Corycium*, 542
on trace elements, 866
Shenon, P. J., and McConnel, R. H., on Silver Belt, Idaho, 754
Shepard, F. P., and Emery, K. D., on continental borderland, 59
Shepard, F. P., on faults, 64
Short, M. N., on polybasite, 770
Sial, segregation, 867
Siderite, 316, 469, 485, 753, 755, 757
Silbêrschiefer, 479
Silica, origin, Hindustan, Kolhan series (discussion), 333
solubility and deposition, 728
uranium extraction, 654
Silica of the bedrock hypogene ore deposits, The origin of the (Schmitt), 877
Silicates, iron formations, 236, 263, 273
physical chemistry (review), 546
Silicic acid, formation by diatoms, 538
Silicification, 370, 516, 518
Bor copper district, Yugoslavia, 474
Sill, Lac La Ronge district, northern Saskatchewan, Radioactive, pronouncedly differentiated pegmatite (Mawdsley), 616
Sills, diabase, Copper Cities area, Ariz., 365
Nipissing diabase, Cobalt, Ont., 379
Silver, C., *Manganese deposits of the Mogollon Rim, Coconino County, Arizona*, 88–91
Silver, 402, 696
melting point and occurrence, 560
New South Wales, Broken Hill deposit (discussion), 783

Silver—*Continued*
Quebec, O'Brien gold mine, 423
United States, mining camps of the West (review), 442
Yugoslavia, 454, 478
Silver Summit mine, Coeur d'Alene district, Idaho, The occurrence of cobalt and nickel in the (Fryklund and Hutchinson, 753
Simpson, D. J., on gravel, 539
Skarn, 633
Skinner, B. J., discussion of paper by, 786
on inclusions, 331
Slags, silicates (review), 547
Slate, graphitic pyritic slates, Lake Superior region, 248
Slickensides, graphite in pegmatite, Mont., 40, 41
Guadalupe mine, Mexico, 496
Smaltite, 71
Smart, W. M., on H, O, and C, 888
Smith, F. G., *Composition of vein-forming fluids from inclusion data*, 205–210
Direction of flow of late stage solutions in the Lamaque No. 6 vein, 530–536
discussion by, 331
on fluids, 885
on gas to liquid ratio, 331
on gold, 429
on inclusions, 206, 530
on pyrite, 401
Smith, F. G., and Little, W. M., on thin sections, 206
Smith, F. G., and Peach, P. A., on inclusions, 530
Smith, H. T., on radial line plot method, 781
Smith, P. S., on gold, 429
Smith, W., on Caribou stock, Colo., 131
Smithsonite, 772
Smyth, C. H., on hematite, 256
Smyth, H. L., and Smith, P. S., on copper, 2
Snider, L. C., on subsidence, 791
Society of Economic Geologists, Program and abstracts of papers to be presented at the Joint Meeting of the Society of Economic Geologists and the Geological Society of America, at Los Angeles, California, November 1–3, 1954, 801
Söhnge, P. G., on bornite, 600
Soils, samples for cobalt content, Cobalt, Ont., 381
Solid state, The formation of intermediate sulfide phases in the (Ross), 734
Solution by coal and some other materials, Extraction of uranium from aqueous (Moore), 652
Solutions, ore fluid and alteration solutions, 871
ore-forming fluids, 727
Solutions in the Lamaque No. 6 vein, Direction of flow of late stage (Smith), 530
Sorby, H. C., on inclusions, 205
Sorenson, R. E., on Silver Belt, Idaho, 754
South Australia, The geology of the Radium Hill uranium mine (Parkin and Glasson), 815
South West Africa, germanite and reniérite, Tsumeb deposit (abstract), 808
pegmatites (abstract), 117
Southwest, A suggested source of the thiophile elements of the Tertiary ore deposits of the (Hillebrand), 863
Spangenberg, K., on magnesite, 489
Spectroscopy, copper, arsenic content (communication), 910
copper ore, Vt., 19
Spencer, A. C., on silica, 880
Spencer, A. C., and Paige, S., on Central district, New Mexico, 869
Spencer, E., and Percival, F. G., discussion of discussion by, 332
on micro-spherulites, 268
Spessartite, 641
Sphaerocobaltite, 356
Sphalerite, 11, 21, 27, 120, 155, 156, 222, 368, 389, 397, 402, 461, 496, 526, 557, 762, 765, 767
Spherites, greenalite, 267
Spieker, E. M., on mid-Cretaceous orogeny, 55
Spiroff, K., on magnetite, 101, 258
Spodumene, 501, 503, 509, 513
Arizona, pegmatite belt (review), 335
Sprigg, R. C., and Whittle, A. W. G., on folds, 818
Springer, G. D., on Cat Lake—Winnipeg River area, Man., 508
Springs, hot-spring systems (abstract), 806
radioactivity, Yugoslavia, 538
Spurr, J. E., on glauconite, 263
Srebrenica lead-zinc deposit, Yugoslavia, 469
Stappenbeck, R., on magnesite, 489
Stari Glog molybdenite deposit, Yugoslavia, 480
Stearns, H. T., on diatremes, 896
Stephenson, T. E., on inclusions, 206
Stevens, R. E., on solutions, 180
Stevenson, J. G. A., on Stirling mine, Nova Scotia, 391
Stevenson, J. S., on chalcopyrite, 408
Stewart, G. W., review by, 335
Stibnite, 71, 478
Stieff, L. R., Stern, T. W., and Milkey, R. G., on ores, 904
Stilpnomelane, 236, 249, 254, 264, 268, 285, 293, 439
Stilpnosiderite, 441
Stock, A., and Cucuel, F., on mercury, 182
Stock, 199, 204

Stockwell, C. H., on Cat Lake—Winnipeg River area, Man., 508
Stokes, R. H., analyses by, 216
Stratigraphic syncline, 3
Stratigraphy, Baja Calif., Mexico, 47, 72
Brazil, Congonhas district (discussion), 659
Coal Measures, Great Britain (review), 665
Copper Cities area, Ariz., 363
Hicks Dome, Illinois, 892
Houston-Galveston region, Texas, 415
Jura-Triassic, Colo. Plateau, 353
Katherine-Darwin region, Northern Territory, 828
Mindamar mining district, Nova Scotia, 391
Roan Antelope copper belt, Northern Rhodesia, 578
Salmo district, B. C., 523, 628
White Pine area, Mich., 676, 679
Streams, iron and silica content, 242, 276
Stringham, B., on silica, 880
on West Mtn. district, Utah, 868
Strøm, K. M., on uranium, 538
Structural syncline, 3
Structure, Arizona, Copper Cities area, 364, 366
Globe-Miami district (abstract), 122
Silver Bell area (abstract), 123
Bor copper district, Yugoslavia, 473
California, Shasta copper-zinc district (abstract), 120
Elizabeth mining district, Vt., 3, 17
grabens, 64
Hicks Dome, Illinois, 891, 893
Houston-Galveston region, Texas, 415
Huronian geosyncline, Mich., 278
Jersey lead-zinc deposit, B. C., 526
Lac La Ronge district, Saskatchewan, 620
New Mexico, Santa Rita intrusive (abstract), 122
New South Wales, Broken Hill area (discussion), 783
porphyry copper deposits, western U. S. (abstract), 122
Radium Hill area, South Australia, 821
Roan Antelope copper belt, Northern Rhodesia, 581, 583
Salmo tungsten district, B. C., 631
structural geology (review), 913
Tennessee, Friends Station—New Market area (abstract), 121
Upper Miss. Valley lead-zinc district (abstract), 120
Washington, Metaline lead-zinc district (abstract), 121
White Pine district, Mich., 690
Yugoslavia, 458
Styolites, seams in carbonate iron formation, 252, 255, 269, 274
Subsidence and its relation to the withdrawal of ground water in the Houston-Galveston region, Texas, Land-surface (Winslow and Doyel), 413
Suffell, G. G., on ore bodies, 407
Sulfide phases in the solid state, The formation of intermediate (Ross), 734
Sulfophile elements, 557
Sullivan, C. J., *Metallic melting point and ore deposition*, 555–574; discussion, 903, 904
on zoning, 561
Sullivan, C. J., and Fisher, N. H., abstract by, 119
Sullivan, C. J., and Matheson, R. S., on uranium, 831
Sullivan, C. J., with Fisher, N. H., *Uranium exploration by the Bureau of Mineral Resources, Geology and Geophysics, in the Rum Jungle province, Northern Territory, Australia*, 826
Sulphide facies, iron formations, 236, 248, 272
Sulphides, 1, 11, 14, 19, 71, 863
intrusive effects of dikes, 407
uraninite ores, Colo. Plateau, 356
Sulphur, bacterial formation, 538
Majden Pek district, Yugoslavia, 477
origin, salt-dome deposits (abstract), 806
origin of pyritic slates, Mich., 243, 248
White Pine copper district, Mich., 695
Sverdrup, H. U., Johnson, M. W., and Fleming, R. H., on sea water, 180
Sweden, methane, Boliden mine, 537
Sydney and St. Rose coalfields, Nova Scotia, Petrographic examination of washed, screened and crushed coal from the (Hacquebard and Lahiri), 837
Synclines, stratigraphic and structural, 3
Systems, copper sulphides, 734
$HgS—Na_2S—H_2O$ (abstract), 807

Tables, alteration effects, Needle Mtn., Gaspe, Que., 517
chemical analyses, coal, Nova Scotia, 839, 851
dunite, asbestos, vermiculite, N. C., 216
iron formations, 250, 271
ore, Palomas district, New Mexico, 776
rocks, southwestern, U. S., 878
schist, Mindamar area, Nova Scotia, 394
coal, volatile losses and water peaks, 304
cobalt content of glacial material, 383
copper in sediments, Mich., 703
copper sulphides, solid-state reactions, 738, 747
decrepitation temperature of quartz, 533
igneous rocks, firing tests, 437

Tables—*Continued*
inclusions in synthetic quartz, pressure effects, 787
iron formation features, 249
melting points and distribution of elements, 558
mercury, solubility, 189
minerals and uranium, Caribou, Colo., 136, 150
paragenesis, ores, Palomas district, New Mexico, 771
uraninite, Colo., 162
petrographic analysis, lignites, N. Dakota, 94
radioactivity, breccia, Hicks Dome, Ill., 899
rocks, metal content, 864
stratigraphy, Baja Calif., Mexico, 47, 72
Hicks Dome, Illinois, 892
Roan Antelope copper belt, Northern Rhodesia, 578
Salmo district, Brit. Columbia, 628
White Pine district, Mich., 679
uraninite occurrences, Colo. Plateau, 353
uranium extraction by materials, 653, 654
Taconite, 262
Tactite, 524, 633, 882
Talc, 213, 391, 399, 411, 440, 759, 763, 774, 775
Taliaferro, N. L., on Franciscan deposits, Calif., 52
Tammann, G., and Roche, H. J., on sulphide phases, 744
Tammann's Diffusion Parabolic Rate Rule, 734, 745, 749
Tantalite, 506
Arizona, Midnight Owl mine (review), 336
South West Africa, pegmatite deposits (abstract), 117
Taylor, J. H., on iron oxide, 256
Taylor, R. E., abstract by, 805
Technique, aerial photography of study areas, 780
alteration, study method, Caribou, Colo., 135
arsenic determination in native copper (communication), 909
bloating of igneous rocks, 436
crystal identification by space groups (review), 663
decrepitation of quartz, 532
determination of interface of waters, 186
determinative tables for minerals (review), 337
digenite formation, 736
extraction of uranium by materials, 653
gold pan, 639, 644, 646
heating of inclusions in quartz (discussion), 786
lateritic ore, reconnaissance and screening tests, Cuba (abstract), 118
Technique—*Continued*
luminescence of rocks, 720
mapping, Rum Jungle area, Northern Territory, 833
monazite exploration (abstract), 119
petrographic analyses of coal, 843
plaster of Paris embedding of lignite, 96
polarization microscope optics (reviews), 224, 226
sampling cobalt content of soils, Ont., 381
scintillation equipment and counter technique, 149
scintillation spectrometer use (abstract), 802
Teichmüller, M., on coal, 92
Telethermal deposits, 560
Tennantite, 21, 402
Tennessee, geologic map, east Tennessee (review), 544
zinc, Friends Station—New Market area (abstract), 121
Terlingua district, Texas, Transportation and deposition of quicksilver ores in the (Thompson), 175
Termier, H., and Termier, G., review of book by, 103
Terms of mining geology as defined and used, Certain (Schmitt), 198
Terzaghi, K., and Peck, R. B., on clays, 420
Tetrahedrite, 71, 753, 757, 768
Bosnia, Yugoslavia, 477, 479
Texas, Land-surface subsidence and its relation to the withdrawal of ground water in the Houston-Galveston region (Winslow and Doyel), 413; discussion, 790
Transportation and deposition of quicksilver ores in the Terlingua district (Thompson), 175
Textbook, chemistry (reviews), 107, 794
geochemistry (review), 666
geography, North America (review), 665
geomorphology (review), 794
historical geology (review), 103
mineralogy (review), 225
petrography (review), 337
Textures, colloform, carbonates, Nova Scotia, 395
uraninite ore, Colo., 159, 162
eutectic texture of uraninite and silver minerals, 154
spodumene aggregates, Canada, 504
sulphide minerals, Roan Antelope ore, Northern Rhodesia, 595
Thallium, melting point and zoning, 557
Thermal analysis, Investigation of rank in coal by differential (Glass), 294
Thermal springs, alteration (abstract), 806
radioactivity, Yugoslavia, 538
Thermoluminescence, 720, 722

Thesis, incorporation of aerial photos (communication), 779
Thiel, G. A., on sulphides, 248
Thiessen classification of coal, 92
Thiophile elements of the Tertiary ore deposits of the southwest, A suggested source of the (Hillebrand), 863
Thompson, A. P., on copper, 2
Thompson, G. A., *Transportation and deposition of quicksilver ores in the Terlingua district,* Texas, 175–197
Thompson, J. B., on folds, 5
Thoreau, J., and Trieu de Terdonck, R. du, on uraninite, 154
Thorium, 899, 912
  scintillation spectrometer for gamma ray measurement (abstract), 802
Thornbury, W. D., review of book by, 794
Thucholite, 537
Thuringite, 265
Thurlow, E. E., and Jarrard, L. D., abstract by, 125
Thurlow, E. E., and Wright, R. J., on Silver Belt, Idaho, 754
  on uraninite, 166
Tin (review), 108
  industry review (review), 226
  melting point and occurrence, 562
Titaniferous gabbro, Egypt, 78
Titcomb, H. A., *et al.,* on Trepča area, Yugoslavia, 462
Tolmachev, I. M., on uranium, 654
Tolman, C., on diabase, 408
Tolman, C. F., on aquifers, 419
Tolman, C. F., and Poland, J. E., on subsidence, 419
Tomkieff, S. I., review of translation by, 913
Torbernite, 832
Tourmaline, 21, 509, 594, 604, 637
Touwaide, M. E., on copper, 72
Transvaal, gold-uranium, Witwatersrand, genesis, 537
Traverse, A., *A method for the petrographic analysis of commercially delivered lignite,* 92–100
Tremblay, L. P., on igneous rocks, 511
Tremolite, 12, 24
Trepča lead-zinc deposit, Yugoslavia, 462
Triassic and Jurassic sediments of the Colorado Plateau, Widespread occurrence and character of uraninite in the (Rosenzweig, Gruner, and Gardiner), 351
Triphylite, 508, 510
Trueman, Sir A., review of book by, 665
Tschermak, G., on volcanic phenomena, 888
Tubandt, C., Reinhold, H., and Neumann, A., on silver, 748
Tumors, 64
Tungsten, Baja Calif. deposits, Mexico, 66
  British Columbia, Salmo area, 529
Tungsten—*Continued*
  Colorado, Cold Spring mine (abstract), 123
  Nevada-Baja Calif. deposits, 60
  occurrence, 563
  scheelite, Little Cottonwood stock, Utah (communication), 221
Tungsten ore-bodies, Salmo, British Columbia, Canada, Emerald, Feeney and Dodger (Ball), 625
Tunisia, lead-zinc deposits, genesis, 571
Turner, F. J., on greenschist facies, 245
Turner, F. J., and Hutton, C. O., on stilpnomelane, 264
Turner, F. J., and Verhoogen, J., on basalt, 865
  on dunite, 213
  on metamorphism, 200
Turquoise, 368
Tuttle, O. F., and Friedman, I., on solutions, 210
Twenhofel, W. H., on diagenesis, 274
Tyler, S. A., on iron, 238
Tyler, S. A., and Twenhofel, W. H., on iron formations, 243, 274
Tyuyamunite, 360

Udden, J. A., on ores, 183
Umpleby, J. B., and Jones, E. L., Jr., on Silver Belt, Idaho, 754
Underground water, Texas, Houston-Galveston region, withdrawal and subsidence (discussion), 790
Union South Africa, banded ironstones, 240, 256
U.S.S.R., black mud deposition, Black Sea coast, 539
  melnikowite, 258
United Kingdom, coal fields (review), 665
  iron formations, 257
United States, Bonanza Trail, ghost towns and mines (review), 442
  copper, porphyry deposits, structure (abstract), 122
  ore deposits, thiophile elements, southwest U. S., 863
  Pacific Northwest (review), 794
  scientific leaders (review), 443
Unkovskaya, V., on uranium, 652
Uralite, 404
Uraninite, 507, 537, 539, 616, 622, 804, 912
Uraninite deposit at Caribou, Colorado, Mineralogy of a (Wright), 129
Uraninite in the Triassic and Jurassic sediments of the Colorado Plateau, Widespread occurrence and character of (Rosenzweig, Gruner, and Gardiner), 351
Uranium, accumulation in plants (abstract), 803
  Arizona, Monument Valley (abstract), 804

Uranium—*Continued*
Australia, Edith River deposits (abstract), 118
Rum Jungle province (abstract), 119
Boulder batholith, Mont. (abstract), 803
Colorado, Central City deposit, origin, 731
Colorado Plateau (discussion), 904
estimation of reserves (abstract), 805
melting point and occurrence, 562
migration into rock, Colo., 150
Montana, Boulder batholith deposits (abstract), 125
origin of deposits (abstract), 118
river content, Wis. (abstract), 803
scintillation spectrometer for gamma ray measurement (abstract), 802
Utah, Big Indian Wash-Lisbon Valley area (abstract), 804
Uranium deposits, Genesis of the Witwatersrand gold (Miholić), 537
Uranium exploration by the Bureau of Mineral Resources, Geology and Geophysics in the Rum Jungle province, Northern Territory, Australia (Fisher and Sullivan), 826
Uranium from aqueous solution by coal and some other materials, Extraction of (Moore), 652
Uranium mine, South Australia, The geology of the Radium Hill (Parkin and Glasson), 815
Urey, H., and Greiff, L. J., on deuterium, 730
Utah, iron, Iron Springs deposit, origin, 731
map, Granite Mtn. area (review), 795
rocks, alteration, Bingham area, 878
scheelite, Little Cottonwood stock (communication), 221
uraninite, Colo. Plateau deposits, 351
uranium, Big Indian Wash-Lisbon Valley area (abstract), 804
Uvarovite, 484
Uvite, 605

Vaes, J. F., on reniérite, 563
Valleriite, 21
Vanadinite, 772
Vanadium, 564, 569
Colorado Plateau (discussion), 904
estimation of reserves (abstract), 805
occurrence in uraninite deposits, Colo. Plateau, 360
Van Bemmelen, R. W., review of book by, 664
Van der Veen, R. W., on intergrowth, 596
Van Hise, C. R., and Bayley, W. S., on slate, 248
Van Hise, C. R., and Leith, C. K., on iron formation, 237, 259, 276
Vanderwilt, J. W., and King, R. U., abstract by, 125
Vanning, 645
Vareš iron ore district, Yugoslavia, 485
Veatch, J. A., on chromite, 49
Vein, Direction of flow of late stage solutions in the Lamaque No. 6 (Smith), 530
Vein-forming fluids from inclusion data, Composition of (Smith), 205
Veins, carbonate veins, Goudreau, Ont., 315
Cobalt district, Ont., 379
gold-quartz, Alamo district, Baja Calif., Mexico, 68
lead-zinc, Yugoslavia, 469, 471
O'Brien gold mine, Que., 424, 427
Roan Antelope copper belt, Northern Rhodesia, 608
silica, origin, 878
silver, Coeur d'Alene district, Idaho, 754
tungsten, Colorado, Cold Spring mine (abstract), 124
uranium, Radium Hill mine, South Australia, 821
uranium-quartz, Rum Jungle area, Northern Territory, 832
Verhoogen, J., on crystals, 194
Vermiculite, 216
Nevada, origin, Southern Virgin Mtns. (abstract), 809
Vermiculite at the Day Book dunite deposit, Yancey County, North Carolina, Notes on the dunite and the geochemistry of (Kulp and Brobst), 211
Vermiculite deposit of Hafafit, Eastern Desert, Egypt, Anthophyllite (Amin and Afia), 317
Vermont, The Elizabeth copper mine (McKinstry and Mikkola), 1
Vernadsky, W., on thucholite, 537
Vernadsky, V. I., Vinogradov, A. P., and Teis, R. V., on hydrous minerals, 729
Vine, J. D., and Moore, G. W., on uranium, 652
Vinogradov, A. P., on diatoms, 538
Virginia, anthracite, thermal curve, 297
Vitrain, 838, 841
Vitrinite, 845, 847
Vitrophyr, 204
Volcanism, iron addition, to sea water, 237, 276
Von Gumbel, C. W., on magnetite, 101
Vugs, 789
Caribou, Colo., 140, 159, 160
magnetite crystals, Minn., 101
ores, Palomas district, New Mexico, 764, 771
tetrahedrite veins, Silver Summit mine, Idaho, 755, 757
Vulcanism, Goudreau area, Ont., 312

Wagner, C., calculations by, 738
on silver, 748
Wagner, P. A., on ironstones, 257, 276

Walker, J. F., on Salmo area, B. C., 628
Wandke, A. D., Jr., on blue chalcocite, 737
Wansbrough, V. C., mineral industry, Canada (review), 547
Washington, H. S., on oxyphile elements, 561
Washington, Metaline lead-zinc district, structure (abstract), 121
Wasserstein, B., on galena, 768
Water, system HgS—Na_2S—H_2O (abstract), 807
  uranium extraction, 658
Water of hydration, isotopic composition, 729
Watson, K. D., *Paragenesis of the zinc-lead-copper deposits at the Mindamar mine, Nova Scotia,* 389–412
Weathering, coal, Illinois, thermal effects, 302, 304
  iron formation, 276, 280
  laterite formation, Conakry, French Guinea (discussion), 905
  lateritic nickel-cobalt ore, Cuba (abstract), 117
  ore deposits and magmatization (abstract), 810
  Rum Jungle uranium province, Australia (abstract), 119
  saprolite and saprolitization, 641
Weaver, C. E., *et al.,* on conglomerates, 50
Weed, W. H., on copper, 1
Weeks, L. G., on Gulf of Calif.—Imperial Valley trough, 64
Weeks, L. J., on Stirling area, Nova Scotia, 391
Well on Hicks Dome, Hardin County, Illinois, Explosion pipe in test (Brown, Emery, and Meyer), 891
Weller, J. M., *et al.,* on explosion breccia, 896
Weller, S., and St. Clair, S., on St. Peter sand, 893
Wendt, A. F., on copper, 2
Wentworth, C. K., Mason, A. C., and Davis, D. A., abstract by, 810
West Virginia, coal, thermal curves, 299
Wheeler, H. A., on copper, 2
Whishaw, Q. G., *The Jersey lead-zinc deposit, Salmo, B. C.,* 521–529
White, D., on Steamboat Springs, Nev., 889
White, D. E., abstract by, 806
  on antimony, 187
White, D. E., and Brannock, W. W., on water, 184
White, D. E., and Gonzáles Reyna, J., on solutions, 187
White, D. E., and Guiza, R., Jr., on solutions, 187
White, W. S., on copper, 714
White, W. S., and Billings, M. P., on marble, 12
White, W. S., and Eric, J. H., on copper, 2
White, W. S., and Jahns, R. H., on synclines, 3
White, W. S., and Wright, J. C., *The White Pine copper deposit, Ontonagon County, Michigan,* 675–716
White, W. S., Cornwall, H. R., and Swanson, R. S., on Portage Lake lavas, Mich., 676
White Pine copper deposit, Ontonagon County, Michigan (White and Wright), 675
Whitehead, W. L., on coal, 295
Whitehead, W. L., and Breger, I. A., on vacuum technique, 295
Whiting, F. B., *Ore controls at the Guadalupe mine, Nuevo Leon, Mexico,* 493–500
Whittlesey, C., on copper, 677
Wiik, H. B., analysis by, 776
Willard, M. E., on cobalt, 753
Williams, H., Turner, F. J., and Gilbert, C. M., review of book by, 337
Wilson, G., on Kopaonik Mtns., Yugoslavia, 465
Wilson, H. S., on Lamaque mine, Que., 530
Wilson, I., on conglomerates, 50
Wilson, I., and Veytia, M., on manganese, 73
Wilson, M. E., on ore bodies, 407
Winchell, A. N., on graphite, 34
  on olivine, 217
Winchell, A. N., and Winchell, H., on ankerite, 604
  on carbonate, 395
Winchell, H., reviews by, 225, 337, 663
Winslow, A. G., and Doyel, W. W., *Land-surface subsidence and its relation to the withdrawal of ground water in the Houston-Galveston region,* Texas, 413–422; discussion, 790
Wisconsin, copper, Nonesuch shale deposits, 715
  iron formations, sedimentary facies, 235
  uranium contents of rivers (abstract), 803
  zinc-lead district, structure (abstract), 120
Wisser, E., *Geology and ore deposits of Baja California, Mexico,* 44–76
Witkind, I. J., abstract by, 804
Wittich, E., on iron, 67
Witwatersrand gold-uranium deposits, Genesis of the (Miholić), 537
Wolfe, O. W., abstract by, 810
Wollastonite, 25, 517
Wolle, M. S., review of book by, 442
Wood, uranium extraction by pine, 654, 656
Woodford, A. O., and Harriss, T. F., on Sierra de San Pedro Mártir, Mexico, 48

Woolnough, W. G., on barred basins, 280
World, population and production (review), 339
Woytinsky, W. S., and Woytinsky, E. S., review of book by, 339
Wright, H. D., *Mineralogy of a uraninite deposit at Caribou, Colorado,* 129–174
Wright, J. C., with White, W. S., *The White Pine copper deposit, Ontonagon County, Michigan,* 675
Wulfenite, 469, 772
Wyman, R. V., discussion by, 904
Wyoming, hot-spring systems (abstract), 806

Xenotime, 642, 650
X-ray study, copper sulphides, 735
  crystal identification, textbook (review), 663
  uraninites, 355
    Colo., 169

Yagishita, H., on coal, 295
Yates, R. G., and Thompson, G. A., on Terlingua district, Texas, 176
Yellowknife-Beaulieu district, N. W. T., 504
Yoder, H. S., Jr., on metamorphism, 214
Yugoslavia, radioactivity, mineral and thermal waters, 538
Yugoslavia and the development of its mining industry, The ore deposits of (Schumacher), 451

Zinc, California, Shasta district (abstract), 120
  geochemical anomalies, 387
  melting point and zoning, 557
  New South Wales, Broken Hill deposit (discussion), 783
Zinc—*Continued*
  Tennessee, Friends Station—New Market area (abstract), 121
  Upper Miss. Valley, structure (abstract), 120
  Washington, Metaline district (abstract), 121
  Yugoslavia, 454, 460
Zinc deposit, Salmo, B. C., The Jersey lead (Whishaw), 521
Zinckenite, 738
Zinc-lead-copper deposits at the Mindamar mine, Nova Scotia, Paragenesis of the (Watson), 389
Zinnwaldite, 508
Zircon, 642, 648, 651
Zletovo lead-zinc district, Yugoslavia, 471
Zobell, C. E., on sediments, 275
Zone of magmation, 863, 871
Zones, mineral deposits, Yugoslavia, 457
Zones of alteration, Caribou, Colo., 134
Zoning, Copper Cities copper deposit, Ariz., 371
  copper sulphides, Roan Antelope, Northern Rhodesia, 589, 610
  El Triunfo-San Antonio area, Baja Calif., Mexico, 71
  hydrophilic series and zoning, 152
  lithium pegmatites, 506, 511
  Little Cottonwood stock, Utah (communication), 222
  luminescence of minerals near geologic units, 720
  metamorphic rocks, Vt., 5
  ore deposits, 556, 557
  pegmatites (review), 792
    Arizona, White Picacho district (review), 335
Zoning at the O'Brien gold mine, Kewagama, Quebec, Vertical (Mills), 423
Zuckert, R., on uraninite, 154